

# Northumbria Research Link

Citation: Turner, Nicholas (2012) Patients' and staff's views of falls occurring on rehabilitation wards: An action research study to explore the voices of experience. Doctoral thesis, Northumbria University.

This version was downloaded from Northumbria Research Link:  
<http://nrl.northumbria.ac.uk/id/eprint/28548/>

Northumbria University has developed Northumbria Research Link (NRL) to enable users to access the University's research output. Copyright © and moral rights for items on NRL are retained by the individual author(s) and/or other copyright owners. Single copies of full items can be reproduced, displayed or performed, and given to third parties in any format or medium for personal research or study, educational, or not-for-profit purposes without prior permission or charge, provided the authors, title and full bibliographic details are given, as well as a hyperlink and/or URL to the original metadata page. The content must not be changed in any way. Full items must not be sold commercially in any format or medium without formal permission of the copyright holder. The full policy is available online: <http://nrl.northumbria.ac.uk/policies.html>

**PATIENTS' AND STAFF'S VIEWS OF  
FALLS OCCURRING ON  
REHABILITATION WARDS: AN  
ACTION RESEARCH STUDY TO  
EXPLORE THE VOICES OF  
EXPERIENCE**

NICHOLAS TURNER

PhD

2012

**PATIENTS' AND STAFF'S VIEWS OF  
FALLS OCCURRING ON  
REHABILITATION WARDS: AN  
ACTION RESEARCH STUDY TO  
EXPLORE THE VOICES OF  
EXPERIENCE**

**NICHOLAS TURNER**

A thesis submitted in partial fulfilment  
of the requirements of the  
University of Northumbria at Newcastle  
for the degree of  
Doctor of Philosophy

Research undertaken in the  
School of Health, Community and  
Education Studies

April 2012

## **ABSTRACT**

### ***Background***

Falls are a major cause of disability and the leading cause of mortality due to injury in people over 75 years living in the UK. Falling in hospital is a significant problem, with falls rates almost three times higher than community-dwelling populations. Interventions effective in the community are not necessarily transferable to an in-patient setting.

### ***Aims***

The primary aim of the research was to facilitate changes to in-patient rehabilitation services for older people, with a focus on improving falls prevention by exploring patients' experiences and collaborating with NHS staff.

### ***Method***

This qualitative action research study had two cycles. In the first cycle, semi-structured interviews were conducted to gain an understanding of the experiences of in-patients who had fallen. In the second cycle, ward staff participated in educational focus group sessions.

### ***Findings***

The adherence to patient safety and risk management after a fall formed a priority for ward staff which affected the promotion of patients' independent functioning. The consequences of falling, particularly psycho-social issues such as low self-efficacy and reduced confidence, and restrictions to mobility due to fear were reinforced by the actions of the staff. This resulted in a change in the expected pathway of patients receiving rehabilitation, which prevented them from achieving optimal functioning. Staff identified that inadequate staffing levels affected the rehabilitation ethos. This was compounded by poor relationships and team-working practices.

### ***Discussion/Conclusion***

The patients' and staff's voices of experience demonstrated a range of attitudes, beliefs and behaviours that were either in harmony (resonance) or opposition (dissonance) to each other. Increasing the resonance offered opportunities for service improvement. This study was unique in its focus on two areas of falls research where there is a lack of evidence: patients' experiences of falling in hospital and interprofessional collaboration for service improvement for in-patient falls prevention. Recommendations to improve Trust practice included greater involvement of patients in decision-making and falls management; adherence to effective team-working practices; and engaging in opportunities to enhance professional learning through falls documentation and monitoring.

## LIST OF CONTENTS

Abstract.....	i
List of Contents.....	ii-vii
List of Tables.....	viii
List of Figures.....	ix
Abbreviations.....	x
Acknowledgements.....	xi
Author's Declaration.....	xii

### CHAPTER ONE

INTRODUCTION.....	1
1.1 My role within the research.....	1
1.2 An overview of the literature.....	2
1.3 Understanding the problem.....	3
1.4 Maintaining independence.....	3
1.5 Navigating the thesis.....	4

### CHAPTER TWO

REVIEW OF THE LITERATURE.....	5
2.1 Search strategies.....	5
2.2 Defining a fall.....	6
2.3 Understanding falling.....	6
2.4 Documenting falls.....	8
2.5 The extent of the problem.....	9
2.5.1 Historical background and national support.....	9
2.5.2 The National Patient Safety Agency (2007).....	10
2.5.3 The NPSA update (2010).....	12
2.5.4 The Royal College of Physicians (2011).....	12
2.5.5 Best practice guidelines.....	14
2.6 Assessing for falls risks.....	15
2.6.1 Risk factors.....	15
2.6.2 Risk assessment tools.....	16
2.7 Falls prevention strategies for in-patients.....	17
2.7.1 Falls prevention: Cochrane Review (2010).....	17
2.7.2 Falls prevention: Oliver et al. (2006) and Coussement et al. (2008).....	20
2.7.3 Falls prevention: other studies.....	22
2.8 Patients' experiences of falling.....	22
2.8.1 Experiences of falling in an acute hospital.....	23
2.8.2 Psycho-social experiences of falling.....	24
2.8.3 National support for patients' experiences of falling.....	25
2.9 Staff Education and Effective Team-working.....	27
2.9.1 The role and benefits of educating staff.....	27
2.9.2 Staff training and motivation.....	29
2.9.3 Interdisciplinary teams and falls prevention.....	31
2.9.4 Facilitating interprofessional collaboration.....	33
2.9.5 Summary.....	35

CHAPTER THREE	
METHOD.....	36
3.1 Research aims.....	36
3.2 Philosophical Perspective.....	37
3.2.1 Positivism and phenomenology.....	37
3.2.2 Critical realism.....	38
3.2.3 Research strategies.....	39
3.2.4 Developments in Critical Realism.....	41
3.2.4.1 Development of the foundations of critical realism.....	41
3.2.4.2 Dialectical Critical Realism.....	42
3.3 Methodological framework.....	44
3.3.1 Contemporary issues - changing practices.....	47
3.3.2 Theory in action research.....	48
3.3.3 Action research and reflective practices.....	49
3.3.4 Dissemination in action research.....	50
3.3.5 Summary.....	51
3.4 Research design: Cycle one.....	52
3.4.1 Problem identification.....	52
3.4.2 Planning.....	53
3.4.3 Action.....	56
3.4.4 Evaluation.....	58
3.4.5 Methods of data collection.....	59
3.4.6 Sampling.....	61
3.4.7.1 Consultation phase: Inclusion criteria.....	62
3.4.7.2 Consultation phase: recruitment.....	62
3.4.8.1 Pilot and main data collection: inclusion criteria.....	63
3.4.8.2 Pilot and main data collection: recruitment.....	63
3.4.9 Methods of data analysis.....	64
3.4.10 Trustworthiness and rigour.....	67
3.4.11 Ethical considerations.....	68
3.4.11.1 Consultation phase.....	69
3.4.11.2 Pilot and main data collection phases.....	70
3.4.11.3 Incident reports.....	71
3.5 Cycle Two: Research design.....	72
3.5.1 Problem identification.....	72
3.5.2 Planning.....	74
3.5.3 Action.....	76
3.5.4 Evaluation.....	78
3.5.5 Methods of data collection.....	79
3.5.6 Sampling.....	85
3.5.7 Inclusion criteria.....	86
3.5.8 Methods of data analysis.....	86
3.5.9 Trustworthiness and rigour.....	88
3.5.10 Ethical concerns.....	90
3.5.10.1 Maintaining confidentiality.....	90
3.5.10.2 Consent.....	91
3.5.10.3 Protection from harm.....	93
3.5.10.4 Political consequences.....	93
3.5.10.5 Professional morality and accountability.....	95
3.5.10.6 Ownership of findings.....	96
3.5.10.7 Preserving the integrity of the data.....	97
3.6 Summary.....	98

CHAPTER FOUR	
FINDINGS.....	99
4.1 Maintaining authenticity.....	99
4.1.1 Patients' explanations of their experiences.....	101
4.2 Consultation phase.....	102
4.2.1 Key findings.....	102
4.2.2 Logistical issues.....	103
4.2.3 Understanding and defining the problem.....	103
4.2.4 Subjective responses.....	104
4.2.5 Linking falls with rehabilitation and prevention.....	104
4.2.6 Knowing when and why patients fall.....	105
4.2.7 Assistance from staff and patient choice.....	106
4.2.8 The benefits of the consultation phase.....	106
4.2.9 Conclusion: The development of falls questions.....	107
4.3 Setting the Context of the Wards.....	107
4.3.1 Pre-admission phase.....	108
4.3.2 Admission and early-stage rehabilitation phase.....	108
4.3.3 Main body of rehabilitation phase.....	109
4.3.4 End-stage rehabilitation and discharge.....	110
4.4 Participant data.....	111
4.5 Defining a fall.....	114
4.5.1 The loss of balance.....	114
4.5.2 How staff defined a fall.....	115
4.5.3 The value of data and documentation.....	116
4.6 Falling as a problem.....	117
4.6.1 How staff viewed the problem of falling.....	118
4.6.2 The development of short- and long-term issues.....	119
4.7 Expectations of falling.....	119
4.7.1 Patients' expectations of falling.....	120
4.8 Different types of patient attitudes.....	121
4.8.1 Stoicism.....	121
4.8.2 Succumbing to the aftermath.....	122
4.8.3 Detached and nonchalant.....	122
4.8.4 Influences on patients' attitudes.....	123
4.9 Assessing the risk and expectation of a fall.....	124
4.9.1 Risk assessment documentation.....	124
4.10 Preceding movements and activities.....	127
4.10.1 Patients' descriptions of preceding factors.....	127
4.11 Warning signs.....	129
4.11.1 Patients receiving a warning.....	129
4.11.2 Enhancing staff awareness.....	130
4.12 The consequences of falling.....	131
4.12.1 Changes to mobility.....	131
4.12.2 Interacting cautiously within the environment.....	132
4.12.3 Effects on balance.....	133
4.12.4 Limiting patients' mobility.....	135
4.12.5 Conflict within mobility.....	136
4.12.6 Over-management.....	139
4.13 Injurious falls.....	140
4.13.1 The physical focus of injuries.....	141
4.13.2 Documenting injuries.....	142
4.13.3 Preventing injurious falls.....	143

4.14	Psycho-social consequences.....	144
4.14.1	The impact on patient confidence.....	145
4.14.2	Professional emphasis of the physical domain.....	146
4.14.3	Staff recognising psycho-social factors.....	147
4.14.4	Recognising patient independence.....	148
4.14.5	Fear of falling.....	149
4.14.6	The impact on social behaviour.....	150
4.14.7	Trust in service provision.....	151
4.14.8	A positive acceptance - facing the fear.....	152
4.14.9	The difficulties with assessing fear of falling.....	153
4.14.10	Influencing psycho-social consequences.....	154
4.14.11	The long-term impact.....	155
4.14.12	Length of stay and discharge.....	156
4.14.13	Participation in rehabilitation.....	157
4.14.14	Understanding rehabilitation, roles and responsibilities.....	158
4.15	The personal impact on mobility following a fall.....	159
4.15.1	Support required from staff.....	161
4.16	Why patients fell.....	162
4.16.1	Physical weakness.....	163
4.16.2	Psychological factors.....	163
4.16.3	The involvement of staff.....	165
4.16.4	Alternative reasons for falling.....	166
4.16.5	Insufficient staffing levels.....	167
4.16.6	Changes in patient behaviour.....	167
4.16.7	Assistance given by staff.....	168
4.16.8	Secondary mechanisms of falling.....	170
4.16.9	Motivation as part of rehabilitation.....	170
4.16.10	The ward environment.....	172
4.17	Taking responsibility for falling.....	174
4.17.1	Patients blaming themselves.....	174
4.17.2	Perceptions of self-efficacy.....	175
4.18	Preventing falls.....	176
4.18.1	Exercise training.....	176
4.18.2	Improving mobility to prevent falls.....	178
4.18.3	Patient confidence.....	178
4.18.4	The role of staff in falls prevention.....	179
4.18.5	Shared learning and training opportunities.....	180
4.18.6	The impact of team-working on falls prevention.....	182
4.18.7	Goal-planning.....	184
4.18.8	Weekly team meetings.....	185
4.18.9	Organisational Issues.....	186
4.18.10	Environmental factors.....	187
4.19	Descriptive data.....	187
4.19.1	Number of falls.....	190
4.19.2	Day and time of fall.....	190
4.19.3	Location of fall.....	191
4.20	Implications for practice - feedback sessions with staff.....	192
4.20.1	Falls prevention and management.....	192
4.20.2	Rehabilitation.....	193
4.20.3	Mobility.....	195
4.20.4	Psycho-social issues.....	195
4.20.5	Problems with team-working.....	196
4.20.6	Environmental factors.....	197



4.20.7	Organisational matters.....	198
4.21	Changes to the wards: implications for practice.....	199
4.21.1	Reporting and learning from falls incidents.....	200
4.21.2	Improved risk assessments.....	200
4.21.3	Better communication between staff.....	201
4.21.4	Educational developments.....	202
4.21.5	Falls prevention strategies.....	202
4.21.6	The Productive Ward.....	203
4.21.7	Summary.....	203
CHAPTER FIVE		
DISCUSSION.....		
5.1	The voices of experience.....	205
5.1.1	Limitations on interpretation.....	205
5.2	Conceptual model.....	206
5.2.1	Differences between participants.....	208
5.2.2	Issues shared between participants.....	209
5.2.3	Specific issues.....	210
5.3	Understanding rehabilitation.....	211
5.3.1	The patients' interpretation of rehabilitation.....	212
5.3.2	Patients' own personal insights.....	213
5.3.3	Staff interpretations of rehabilitation.....	214
5.3.4	Understanding patients' lives and experiences.....	215
5.3.5	The impact on functional outcomes.....	217
5.3.6	Patient involvement, empowerment and participation.....	217
5.3.7	Impacting on patients' experiences.....	218
5.4	The phases of a fall.....	219
5.4.1	Pre-fall - warning signs.....	220
5.4.2	Pre-fall - the control and management of risk.....	221
5.4.3	Pre-fall - falling as a problem.....	222
5.4.4	Pre-fall - falls prevention.....	222
5.4.5	During fall.....	223
5.4.6	During fall - sustaining an injury.....	223
5.4.7	During fall - immediate management.....	224
5.4.8	During fall - the significance of the timing of falling and rehabilitation....	225
5.4.9	Post-fall.....	225
5.4.10	Post-fall - the consequences and personal impact of falling.....	225
5.5	Patient's individual experiences.....	226
5.5.1	David's experience.....	227
5.5.2	Joan's experience.....	228
5.5.3	Pat's experience.....	230
5.5.4	Margaret's experience.....	231
5.5.5	Ron's experience.....	233
5.6	The patient and staff relationship.....	235
5.7	Restrictions imposed to patients' mobility.....	239
5.7.1	Self-imposed restrictions.....	239
5.7.2	Staff-imposed restrictions.....	241
5.8	Professional culture.....	241
5.8.1	Differences in professional outlook.....	242
5.9	Evaluating the research.....	244
5.9.1	Preventing adverse effects.....	244
5.9.2	Transforming reflection into action.....	246

5.9.3	Commitment to change.....	246
5.9.4	Changing practice and service improvement.....	247
5.9.5	Staff involvement.....	248
5.9.6	Developing evidence-based practice.....	249
5.10	The role of the researcher.....	250
5.10.1	Researcher credibility.....	253
5.11	A way forward for service improvement.....	254
5.11.1	Patient centeredness.....	256
5.11.2	Specific issues.....	257
5.12	Action research as the process of change.....	259
5.13	Further implications.....	260
5.14	Opportunities for development.....	262
CHAPTER SIX		
CONCLUSIONS.....		265
Appendix 1:	Search Strategy One.....	268
Appendix 2:	Search Strategy Two.....	269
Appendix 3:	Search Strategy Three.....	270
Appendix 4:	Search Strategy Four.....	271
Appendix 5:	Search Strategy Five.....	272
Appendix 6:	Search Strategy Six.....	273
Appendix 7:	NHS Trust Falls Checklist.....	274
Appendix 8:	Falls Questions v.1.....	275
Appendix 9:	Falls Questions v.2.....	276
Appendix 10:	Falls Questions v.3.....	277
Appendix 11:	Consent Form Consultation Phase.....	278
Appendix 12:	Information Sheet for Consultation Phase.....	279
Appendix 13:	Consultation Phase Flowchart.....	286
Appendix 14:	Consent Form Cycle One.....	287
Appendix 15:	Information Sheet for Cycle One.....	288
Appendix 16:	Flowchart for Cycle One.....	295
Appendix 17:	REC Approval Letter for Cycle One.....	296
Appendix 18:	Descriptive Falls Data.....	297
Appendix 19:	Consent Form for Cycle Two.....	298
Appendix 20:	Information Sheet for Cycle Two.....	300
Appendix 21:	Flowchart for Cycle Two.....	305
Appendix 21:	REC Approval Letter for Cycle Two.....	306
List of References.....		309

## LIST OF TABLES

Table 3.5.5	Collaborative Learning Group topics per session.....	81
Table 4.1	Demographics of both rehabilitation wards.....	101
Table 4.4a	Recruited patient demographics.....	112
Table 4.4b	Details of staff recruited from ward 'A'.....	113
Table 4.4c	Details of staff recruited from ward 'B'.....	113
Table 4.4d	Feedback session attendance details.....	114
Table 4.19	Patients' falls data.....	189

## LIST OF FIGURES

Figure 3.3	Cyclical design of the study.....	46
Figure 3.4.1	Cycle One: Problem Identification phase.....	52
Figure 3.4.2	Cycle One: Planning phase.....	54
Figure 3.4.3	Cycle One: Action phase.....	57
Figure 3.4.4	Cycle One: Evaluation phase.....	58
Figure 3.5.1	Cycle Two: Problem Identification phase.....	73
Figure 3.5.2	Cycle Two: Planning phase.....	75
Figure 3.5.3	Cycle Two: Action phase.....	77
Figure 3.5.4	Cycle Two: Evaluation phase.....	78
Figure 5.2	Conceptual model: resonant, dissonant and specific themes.....	207
Figure 5.3	Optimal outcome of rehabilitation.....	212
Figure 5.5.1	Effect of a hospital fall on David's rehabilitation trajectory.....	227
Figure 5.5.2	Effect of a hospital fall on Joan's rehabilitation trajectory.....	229
Figure 5.5.3	Effect of a hospital fall on Pat's rehabilitation trajectory.....	230
Figure 5.5.4	Effect of a hospital fall on Margaret's rehabilitation trajectory.....	232
Figure 5.5.5	Effect of a hospital fall on Ron's rehabilitation trajectory.....	234
Figure 5.11	Promoting resonance: a way forward for service improvement ....	255

## ABBREVIATIONS

Abbreviation	Definition
ACSQHC	Australian Commission on Safety and Quality in Health Care
ADL	Activities of Daily Living
AGS	American Geriatrics Society
CLG	Collaborative Learning Group
CSP	Chartered Society of Physiotherapy
CVA	Cerebrovascular Accident
DH	Department of Health
FRAT	Falls Risk Assessment Tool
GP	General Practitioner
ICF	International Classification of Functioning, Disability and Health
ICSI	Institute for Clinical Systems Improvement
IDT	Interdisciplinary Team
IR1	Incident Report form
IRAS	Integrated Research Application System
MDT	Multidisciplinary Team
NHS	National Health Service
NHSI	NHS Institute for Innovation and Improvement
NICE	National Institute for Health and Clinical Excellence
NNRU	National Nursing Research Unit
NPSA	National Patient Safety Agency
NRLS	National Reporting and Learning Service
NSF	National Service Framework
OT	Occupational Therapist
PHRU	Public Health Resource Unit
RCP	Royal College of Physicians
RCT	Randomised Controlled Trial
SHA	Strategic Health Authority
UK	United Kingdom
WHO	World Health Organisation
Z/F	Zimmer-frame

## **ACKNOWLEDGMENTS**

I wish to sincerely thank my supervisors Dr. Diana Jones, Professor Pamela Dawson and Barbara Tait for their encouragement and invaluable guidance throughout this work. Their professional and experienced input has culminated in this thesis.

My appreciation is extended to all members of staff from the School of Health, Community and Education Studies at Northumbria University who have been involved in this work, and have helped to provide direction at times to ensure the thesis remained on course.

I am grateful to all of the patients and staff who generously afforded me the time and effort by agreeing to participate in this study. Without their involvement the thesis would have been incomplete, and their “voices” would not have been heard.

Many fellow postgraduate students, physiotherapy colleagues and clinical peers provided on-going support and encouragement, and helped to place this work into context and for this I thank them.

Finally, I wish to acknowledge the support of my family, friends and loved ones. Without their support and inspiring confidence in my abilities I would not have been able to complete the journey.

## **Declaration**

I declare that the work contained in this thesis has not been submitted for any other award and that it is all my own work. I also confirm that this work fully acknowledges opinions, ideas and contributions from the work of others.

Any ethical clearance for the research presented in this thesis has been approved. Approval has been sought and granted by the School Ethics Committee on 5<sup>th</sup> November 2007 and 30<sup>th</sup> April 2009, Sunderland Research Ethics Committee on 31<sup>st</sup> March 2008, and County Durham & Tees Valley 2 Research Ethics Committee on 13<sup>th</sup> August 2009.

Name:

Signature:

Date:

## CHAPTER ONE

### INTRODUCTION

Falls are a major cause of disability and the leading cause of mortality due to injury in people over 75 years living in the UK (DH, 2001). Falling in hospital has been recognised to be a significant problem within the NHS (NPSA, 2007), with falls rates almost three times higher than community-dwelling populations (AGS, 2001) and complication rates are considerably higher (DH, 2001). The issue of falls and fall related injuries presents a costly problem within the NHS, both in terms of personal loss (e.g. fall related injuries, mortality rates) and financial expenditure (NPSA, 2007; DH, 2001). Hospital patients are much more likely to be affected from acute illness, delirium, dementia and cardiovascular problems (NPSA, 2007). Applying interventions which have been shown to be effective in the community are not necessarily transferable to an in-patient setting (Cameron et al., 2010).

This qualitative study used action research to firstly understand the experiences of patients who fell whilst undergoing a period of rehabilitation in hospital (Carroll et al., 2010). Secondly, ward staff were invited to participate in a series of educational focus group sessions to raise their awareness of falls-related issues relevant to their clinical practice (Wright et al., 2007; Gibb et al., 2002).

The study highlighted clinical implications for the ward staff, which provided a way forward for the Trust to continue developing its approach to rehabilitation and falls prevention.

#### ***1.1 My role within the research***

The remit for the study was originally established through a joint initiative by Northumbria University and a local NHS Trust, as the latter organisation had experienced problems with high numbers of older patients falling on the rehabilitation wards. This presented an opportunity to investigate the falls problem and to generate potential solutions that would lead to improving the health service. The need to understand and effect changes created the movement towards the use of action research as a methodological basis for the study, as this aims at changing practices, understandings and conditions (Kemmis, 2009).



My involvement in the study had dual elements of adopting the role of researcher ('part-outsider') and clinician ('part-insider'). In particular, staff were aware that I had connections with an external academic organisation to conduct research with them on falls prevention. This fulfilled my position as 'part-outsider' that enabled me to challenge the micro-political climate and to make appropriate interpretations based on what was experienced during the research. Being a part-outsider enabled me to question the cultural norms and values currently upheld by the wards without serious prejudice or retribution.

My role as 'part-insider' had been established by previously working as a physiotherapist on the two wards, albeit on a part-time honorary basis. Patients and more so staff were aware of my part-clinical/part-research post. Good working relationships had already been established with many of the participants prior to the research period that inevitably enhanced the recruitment process and facilitation of changes. This was beneficial to the nature of the study as it enabled me to have direct experience of the people and processes inherent to the wards. I could observe the contrast between the implementation of Trust policies, procedures and guidelines, and the pragmatics of daily life on the wards (Williamson and Prosser, 2002).

## ***1.2 An overview of the literature***

Some of the earliest major pieces of work that highlighted the national extent of the problem was the inclusion of a falls standard in a National Service Framework (DH, 2001) and the publication of guidelines by the National Institute for Clinical Excellence (NICE, 2004). These documents placed a strong emphasis on a community-based approach to falls management, although there were aspects relevant to an in-patient population.

Other guidelines have emerged since the NSF and NICE publications and have provided national support for a clearly under-researched area (AGS, 2011). Arguably, the most significant document in recent years has been the National Patient Safety Agency's report: 'Slips, Trips and Falls in Hospital' (NPSA, 2007). The aim of the report was to describe the extent of the problem of in-patient falls within the NHS, and to make recommendations so as to prevent falls using current evidence-based strategies and examples of best practice. During a twelve-month period, 206,350 falls reports were sent to the National Reporting and

Learning Service (NRLS) from 98 percent of acute NHS organisations. This was believed to be the largest dataset of the circumstances of falls ever analysed (NPSA, 2007).

A review of interventions for preventing falls in older people in nursing care facilities and hospitals has been published by the Cochrane Library (Cameron et al., 2010). The aim of this systematic review was to evaluate the literature so as to inform best practice and to provide direction for future research. It differed from an earlier Cochrane Review (Gillespie et al., 2009) as it recognised that patient characteristics and the environment influenced the types of interventions implemented by professionals with different skill mixes in different clinical settings.

### ***1.3 Understanding the problem***

To understand the ways in which a fall impacted on patients' and staff's lives, it was necessary to firstly understand what constituted a fall (Lamb et al., 2005). The concept of defining a fall, investigating how patients and staff interpreted a fall (Zecevic et al., 2006), and exploring the actual causes of falling were integral to this research. In particular, the research methods used in this study considered the work of Zecevic et al. (2006), who highlighted the need for patients and staff to seek a mutual understanding of the problem to aid potential improvements to service provision. The basis of both cycles of this study were supported by the findings of Zecevic et al. (2006) as it was demonstrated that changes in clinical practice required more than physical interventions. There needed to be an educative element to the study which raised participants' awareness of the issue of in-patient falls, and having knowledge - and agreement - as to what constituted a fall was essential to facilitate this learning. A key finding from Zecevic et al. (2006) was how different interpretations of falls led to different consequences.

### ***1.4 Maintaining independence***

Roe et al. (2008) studied the effect of falling on patients' independence and behaviour. The authors found patients made changes to their lifestyles following a fall which resulted in the adoption of avoidance strategies and needing additional support from others (Kong et al., 2002). They reported that patients who were more open to share their experiences tended

to confront their fears and anxieties, albeit in different ways. Attitudes exhibited by patients were varied and were found to impact on the post-fall recovery process in different ways (Kloseck et al., 2008; Kong et al., 2002).

Some of the core themes integral to the research included the balance between encouraging independence whilst managing falls risks and patient safety (NPSA, 2007). The wide-range of consequences of falling in hospital were established from the experiences of patients and the professional input provided by ward staff. There were issues related to ineffective team-working that highlighted how the professional culture of the wards reinforced a lack of patient involvement. This ultimately led to a shift in power in decision-making, whereby staff assumed greater control and responsibility over patients' rehabilitation. In doing so, patients were prevented from re-engaging with their therapy at a satisfactory level, and were unable to resume a projected pathway towards optimal, independent functioning.

### ***1.5 Navigating the thesis***

This thesis will present the voices of the patients and staff as they described their personal and professional experiences of falls that occurred on the two rehabilitation wards. Chapter two will provide a review of the literature, covering the core themes which underpinned the study; this will help to direct the attention of the reader to specific aspects of the participants' experiences and outcomes. Chapter three will explain the research aims and methods, including the methodological framework (i.e. action research) and philosophical basis of the study. Chapter four will present the findings of the research and will show the language used and opinions expressed by the participants to describe their perceptions of falls. Chapter five is the discussion, and will provide an interpretative meaning to the findings. Finally, chapter six will draw conclusions so as to summarise the thesis.

## CHAPTER TWO

### A REVIEW OF THE LITERATURE

This chapter will provide an extensive review of the literature underpinning the basis of this study. The main theme of in-patient falls will be explored from a variety of perspectives. This chapter will begin with how a fall is understood and defined, particularly in relation to falls documentation (i.e. incident reporting). There will be a section detailing the historical background of in-patient falls, including specific studies and guidelines to show the (inter)national movement of the subject area and extent of the problem; this will then lead into falls risks and risk assessment tools. The section on falls prevention will set the context of the study within a broader context before concentrating on the specific aspects of this study (e.g. understanding patients' experiences, staff involvement and effective team-working).

The first section will provide a basis of understanding in-patient falls, including definitions, documentation, and the scope of the problem, particularly from an historical and national point-of-view. The second section will cover the assessment of risk factors and the use of risk assessment tools. This will lead into an examination of the evidence surrounding strategies to prevent falls. The fourth and fifth sections will describe specific aspects of patient and staff involvement, including personal experiences of falling and effective team-working practices.

#### ***2.1 Search strategies***

A comprehensive search strategy was used for each of the sections of this chapter. Full details can be found in Appendices 1-6, as Tables 2.1.1 to 2.1.6. A range of databases were used to identify appropriate articles, including CINAHL and ProQuest Nursing and Allied Health Source. Dates were set between January 2000 and July 2011 so as to ensure a contemporary literature search. All of the articles found by the search strategies were first considered in relation to their relevance to the study by identifying key points of congruence with a particular section. Articles were then screened for quality using the appropriate critical appraisal tool from the Critical Appraisal Skills Programme (PHRU, 2011). Articles

were either used as background reading and/or critiqued in the thesis. Studies were excluded if they did not pertain to a hospital or other institutional environment, and English was set as a language restriction.

## ***2.2 Defining a fall***

To understand the extent and ways in which a fall impacted on patients' and staff's lives, it was necessary to understand what constituted a fall. There have been many definitions of a fall yet the one applied in this study (in the patient interviews and sessions with staff) was as follows:

“[A fall is] an unexpected event in which the participant comes to rest on the ground, floor or lower level” (Lamb et al., 2005)

The concept of defining a fall, investigating how different people interpreted a fall, and exploring the actual causes of falling was integral to this research. These themes were also explored in a study by Zecevic et al. (2006). The authors examined the relationship between the definition of a fall and falls prevention, including the identification of risk factors. Telephone surveys were used as a means of collecting data from 477 community-dwelling older people regarding their perceptions of falls, in addition to interviews with 31 health care professionals. Zecevic et al. (2006) found that a fall had different meanings for each of the participant groups. Older people and health professionals tended to focus on the factors that preceded and followed a fall, whereas research studies emphasised the fall event itself. Differences also existed between the older participants' perceptions of the reasons why they fell in comparison to risk factors identified in the literature.

## ***2.3 Understanding falling***

Zecevic et al. (2006) was particularly important to the development of this study as it highlighted the need for patients and staff to seek a mutual understanding of the problem to aid potential improvements to service provision. The study highlighted the need to have an educative element to this research project which raised participants' awareness of the issue

of in-patient falls, and having knowledge - and agreement - as to what constituted a fall was essential to facilitate this learning.

Different interpretations of falls led to different consequences (Zecevic et al., 2006). Sharing a mutual vision of what the problem was and what could be done to solve it ensured that all stakeholders effectively and uniformly contributed to the identification and future prevention of falls (Ross et al., 2005). It was also necessary to recognise the difference between the factors that actually caused falling and which simply increased the likelihood (i.e. risk) of a fall (Rubenstein and Josephson, 2002).

A study by Roe et al. (2008) aimed to explore the experiences of older people who had recently fallen, and to identify the possible factors that could have contributed towards service development. The authors conducted 27 initial semi-structured interviews and 18 follow-up interviews with older people. Data were collected regarding the participants' experiences of falling and health services, their own health and well-being, functional activities, prevention strategies, and acceptance of care and support.

Patients reviewed their falls experience so as to develop an understanding of why it occurred. If a cause could be identified from their responses then it would serve to reduce the likelihood of a similar future fall from occurring. Many of the falls characteristics were similar to aspects of this doctoral research study e.g. the majority of patients were alone at the time of the fall, were unsure of why they fell, and had difficulties seeking help. Similar consequences were also reported, such as patients sustaining an injury, loss of confidence and fear of falling.

The authors found patients made changes to their lifestyles following a fall which resulted in the adoption of avoidance strategies and needing additional support from others. They reported that patients who were more open to share their experiences tended to confront their fears and anxieties, albeit in different ways. Patients demonstrated different attitudes towards their falls, and the patients that did not know the cause of their falls appeared to live in fear by restricting their interaction within their immediate environment and when they performed daily activities.

Roe et al. (2008) supported the need to gain an understanding of patients' experiences of falling. The authors demonstrated how this understanding aided the development of

prevention strategies by enabling participants to face their fear and promote self-confidence, particularly when they performed daily activities.

## ***2.4 Documenting falls***

One of the sources of information used to enhance the planning and action phases of this study was a review of the incident report forms that documented patients' falls on the two wards. Even though these were not directly used to educate staff on how to define a fall, their inclusion in the study served to highlight the need for staff to arrive at a common understanding as to what constituted a fall and to allow that understanding to inform their clinical judgment as they completed the reports. A pre-post-intervention design study by Haines et al. (2009) investigated the relationship between how nursing and therapy staff from seven hospitals defined a fall and if/how they would complete an incident report form. They used a novel approach of showing 446 participants fourteen video scenarios with actors demonstrating different circumstances to which participants had to state if they believed the 'patient' had fallen, and if they would complete an incident form.

Despite the use of multiple research sites and quantity of participants recruited for Haines et al. (2009), this doctoral study differed from their research by involving more than nursing and therapy staff. Medical and support staff (e.g. healthcare workers and rehabilitation assistants) were also used for this study as they were key members of the team involved with patient care and falls management. Their involvement was essential so as to provide a comprehensive insight into how the two staff collectively and individually (i.e. profession-specific) perceived the problem of patients falling. Haines et al. (2009) found a lack of consensus between participants in five of the scenarios. The authors concluded that inconsistencies in research findings could be attributed to disagreements between different members of staff. These were not significantly improved - nor were staff more likely to complete incident report forms - even if they were presented with standard definitions of a fall (Haines et al., 2009).

The use of the incident reports in this doctoral research were used in a different way in comparison to Haines et al. (2009), yet there were common aspects shared with this study by investigating how staff defined the problem, and by highlighting issues regarding the documentation of falls. This PhD study had to consider the findings of Haines et al. (2009)

by recognising that improvements in the service were likely to occur only if research methods impacted at a deeper level.

## ***2.5 The extent of the problem***

Falls are a major cause of disability and the leading cause of mortality due to injury in people over 75 years living in the UK (DH, 2001). It is a major contributor to immobility and premature nursing home placement (Rubenstein, 2006). Falling in hospital has been recognised to be a significant problem within the NHS (NPSA, 2007), with falls rates almost three times higher than community-dwelling populations (AGS, 2001) and complication rates are considerably higher (DH, 2001). There are approximately 1,260 falls per year for an average 800-bed acute hospital trust within England and Wales (NPSA, 2007) and 30-40% of these result in some form of injury (Oliver, 2007). The issue of falls and fall related injuries presents a costly problem within the NHS, both in terms of personal loss (e.g. fall related injuries, mortality rates) and financial expenditure (NPSA, 2007; DH, 2001). Furthermore, in older people with dementia, the incidence of falls may be twice that of the cognitively normal population (Tinetti and Williams, 1998); they are more likely to require hospital admission (Hubbard et al., 2004) and long-term care (Greene et al., 2001); and they are more likely to have recurrent falls (Greene et al., 2001).

### ***2.5.1 Historical background and national support***

The majority of falls literature prior to the 21<sup>st</sup> century had focused on community-dwelling populations and long-term care facilities (Renteln-Kruse and Krause, 2007), and it has only been the past decade that there has been an increase in hospital-based falls research. One of the earliest major pieces of work which highlighted the national extent of the problem was the inclusion of a falls standard in a National Service Framework (NSF) (DH, 2001). This document focused on three key interventions: prevention, diagnosis and treatment, and rehabilitation, including long-term support. There was a strong emphasis on a community-based approach to falls management, rather than an in-patient population, although the NSF did describe the need for specialist assessment (Tinetti, 2008) as well as key risk factors and appropriate interventions that were partly applicable to a hospital environment.



A few years after the publication of the NSF, the National Institute for Clinical Excellence (NICE) produced guidelines to support the implementation of the NSF (NICE, 2004). This document was another significant step towards addressing the problem of falls yet was once again focused on a community-dwelling population. There were strong elements of the NICE guidelines that were relevant to an in-patient setting, including targeting older people at risk of falling, families and carers, health care professionals, and those responsible for service delivery. Many of the interventions that were covered were relevant to an in-patient setting, although the evidence to support the NICE guidelines originated from a Cochrane Review of community falls (Gillespie et al., 2003), and so had limited overlap. Despite the community-based focus of the NSF (2001) and NICE guidelines (2004), these documents were fundamental landmarks in a national movement towards recognising the need to address the problem of older people falling.

### ***2.5.2 The National Patient Safety Agency (2007)***

Other guidelines have emerged since the NSF and NICE publications and have provided national support for an under-researched area (AGS, 2011). Arguably, the most significant document in recent years has been the National Patient Safety Agency's (NPSA) report on 'Slips, Trips and Falls in Hospital' (2007). The aim of the report was to describe the extent of the problem of in-patient falls within the NHS, and to make recommendations so as to prevent falls using current evidence-based strategies and examples of best practice. During a twelve-month period (September 2005-August 2006), 206,350 falls reports were sent to the National Reporting and Learning Service (NRLS) from 98 percent of acute NHS organisations. This was believed to be the largest dataset of the circumstances of falls ever analysed (NPSA, 2007).

The report provided a considerable degree of support for the findings of this study as themes were shared between both articles of research including why patients fall; what patients were doing when they fell; assessing falls risks; multifaceted interventions; post-fall management; and patients' views on falls prevention strategies. There was a strong focus on injurious falls in the report despite the majority of falls in hospital not resulting in any significant physical harm (NPSA, 2007). However, non-physical consequences were commonly documented, including emotional distress, loss of confidence, increased length of stay, and an increased likelihood of being discharged to long-term care. Injuries being

sustained from falling were categorised into level of severity/harm. The financial implications of falling were documented, with healthcare costs being estimated at a minimum of £92,000 per annum for an average acute NHS Trust.

The balance between the provision of rehabilitation and patients' right to make their own decisions was highlighted. Health and social care professionals working in hospitals need to work with patients and their carers to achieve a mutual integration between preventing falls and independence, privacy, dignity and rehabilitation. It was stated that achieving a zero falls rate was not realistic as rehabilitation always involves some degree of risk (NPSA, 2007). The differences in risk factors between hospital and community settings was one of the fundamental points that distinguished 'Slips, Trips and Falls in Hospital' from previously published national material, such as the NSF (2001) and NICE (2004), and promoted the need for a Cochrane Review specifically for in-patient population (Cameron et al., 2010).

Hospital patients are much more likely to be affected from acute illness, delirium, dementia and cardiovascular problems (NPSA, 2007). Applying interventions which have been shown to be effective in the community are not necessarily transferable to an in-patient setting (Cameron et al., 2010). For example, the hospital environment is different to patients' own homes, and therefore presents a different set of hazards (Hignett and Masud, 2006). Patients tend to be less independent in hospital as they require more one-to-one care due to being more frail and vulnerable. Interventions need to consider the different living circumstances of being in hospital, and should be tailored to the needs of the individual in relation to their present state of functioning (NPSA, 2007).

The NPSA advocated six recommendations for NHS Trusts so as to improve falls prevention programmes. Incident reporting, which was the main source of data for 'Slips, Trips and Falls in Hospital', needs to be adhered to more consistently, with more detail documented in reports. These reports are critical for organisational learning at both local and national level, and service development can be made more effective if better information is recorded. Understanding the causes of falls can aid NHS Trusts to direct their resources accordingly. Patients, carers and staff need to be mutually involved in prevention strategies (Zecevic et al., 2006), particularly in addressing the key risk factors of falling in hospital. The assessment of risks needs to be better understood in terms of the ability of risk scores and tools in under- or over-predicting falls; these should also be validated within

each Trust (Oliver, 2007). The literature review in the NPSA document found that multifaceted interventions could reduce falls rates for in-patient settings to 18 percent.

Falls prevention policies should be based on the evidence presented in the NPSA report, and should consider the examples given of best practice i.e. success stories from organisations that have already generated improvements in service provision (NPSA, 2007). Finally, the NPSA recommended NHS Trusts provide appropriate guidance for staff on post-fall management, including how to observe, investigate and care for patients who have fallen.

### ***2.5.3 The NPSA update (2010)***

In 2010, there was an update of the NPSA (2007) document. This update gave more recent (October 2008-September 2009) statistical information, to illustrate changes since the 2007 document. For example, falls rates were higher in the latest edition, primarily due to improvements in the consistency of reporting processes. There was a strong focus on injuries, similar to the previous version, with more detailed data on fractures, fracture types, serious falls resulting in brain injuries, and proportions of harm as per different care settings. For example, 1390 (95% confidence intervals 1332-1448) in-patient falls resulted in fracture(s), and 840 (95% confidence intervals 775-905) of these were hip fracture(s).

The age of fallers was analysed, which showed that 82.2% of falls occurred in patients over the age of 65. In relation to bed occupancy, patients over the age of 85 were found to be at highest risk of falling. More up-to-date data regarding the time of incidents was comparable to 2005/06 data, with patient activity, staff activity, visiting times, patient physiology and the effects of medication all having a significant impact on falls. There was more specific information which detailed differences between acute hospitals, mental health units and community hospitals, with the latter having a higher mean rate of falls per 1,000 bed days than the other clinical environments. This was reported to be due to differences in local populations, specialist services and reporting culture.

### ***2.5.4 The Royal College of Physicians (2011)***

In addition to the work of the NPSA, the Royal College of Physicians (RCP) published a report on the 2010 national audit of falls and bone health of older people (RCP, 2011). The audit was commissioned by the Healthcare Quality Improvement Partnership and was approved by the National Falls and Bone Health Audit Steering Group. The aim of the report was to review the organisation and commissioning of services provided to older people for falls prevention and bone health, and the clinical care delivered to people who have fallen and sustained a fracture. Specific standards of the NSF for Older People (DH, 2001) were originally used as a benchmark to determine the progress made by NHS organisations since the publication of previous audits.

The audit presented data collected from 9567 older patients who had sustained a fracture following a fall during 2010. Over 90% of healthcare organisations in the UK participated in the audit, including 100% acute NHS Trusts. This was clearly a large dataset though was not as extensive as the NPSA in 2007. The audit had a specific focus on falls that resulted in a fragility fracture and therefore excluded non-injurious falls or falls resulting in an injury other than a fracture (RCP, 2011).

The report advocated integrated services, based on national standards and evidence-based guidelines, and effective commissioning were needed to produce national improvements to falls rates and consequences of falling, particularly falls which resulted in injuries (RCP, 2011). The audit demonstrated how improvements had been made by NHS organisations in England, Wales and Northern Ireland, yet major variations in quality between Trusts still existed, with discrepancies in patient care between what organisations reported and the actual services provided. In particular, patients received different levels of care depending on types of fractures - for example, only 30% of hip fracture patients received a package of basic acute care, and many patients were not being properly assessed for osteoporosis/fracture risk, especially within emergency care settings.

The report made recommendations for commissioners of services, and emphasised the use of the Department of Health's (DH) 'Prevention Package' (DH, 2009) to support effective falls and fracture services. Of particular relevance to in-patient services, the report recommended the use of fracture liaison services; acute screening of older people at risk of falling and fractures; and adherence to the NPSA guidelines on bed rail usage, reporting and monitoring of falls, and the aftercare of fallers in hospital (NPSA, 2011). Sixteen key indicators were chosen to illustrate how to achieve best practices in falls prevention and

fracture care. Included in these was further support for more effective numerical risk assessment tools and monitoring of falls, especially those resulting in serious injuries, and by involving patients to understand the circumstances of falls incidents.

A range of staff were involved in the audit and were asked to re-audit their first five cases so as to establish level of consistency in findings, particularly between hip (n = 431) and non-hip (n = 504) fractures. The kappa statistic was used to measure agreement and demonstrated the key indicators had either 'good' (0.61-0.80) to 'very good' (>0.80) levels of agreement. Kappa values less than 0.60 were found on a number of variables, including the recording in the clinical notes of an individualised intervention plan (HIPS kappa = 0.22; NON-HIPS kappa = 0.27); pre-admission mobility (HIPS kappa = 0.49); pre-admission functional ability (HIPS kappa = 0.56); and the inclusion of the place and activity (i.e. the context) of the presenting fall in the falls assessment (HIPS kappa = 0.58).

Cognitive functioning was linked with patients sustaining a hip fracture, as it was found that patients commonly experienced delirium after surgery - a leading risk factor of in-patient falls (Titler et al., 2011; NPSA, 2007; Lord et al., 2007). The role of exercise to prevent falls was also highlighted (Skelton and Dinan, 2009; Haines et al., 2007), although this was biased towards community-dwelling patients (Howe et al., 2007). Finally, the RCP recommended that patients and carers should receive better education on how to prevent a fall in the form of written and oral information.

### ***2.5.5 Best practice guidelines***

In addition to national guidelines, audits and reports, the RCP has been involved in a quality improvement project, 'Closing the Gap: Fall Safe', performed in partnership with the South Central Strategic Health Authority (SHA). This began in November 2009 and a final report is due in March 2012. Chief executives across the South Central SHA were invited to nominate an in-patient ward to be involved in the project. Sixteen wards from various NHS Trusts agreed to participate and included clinical areas such as rehabilitation, orthopaedics, acute medical and older person's mental health. The aim of this project was to evaluate the impact of best practice falls prevention and management within these clinical environments, and to gain an understanding of any barriers to the process of implementation.

A project lead was to report each month on progress made by the wards, to work closely with NHS staff during the implementation process, and to ascertain emotional responses from patients. A “bundle of care” (RCP, 2011) was gradually introduced to the participating wards, and included discussions centred on fundamental falls topics such as previous falls, delirium screening, mobility aids, and fear of falling etc. Project leads shared the learning with colleagues and key stakeholders; falls rates were compared with control wards.

Some of the preliminary results from the project showed improvements to aspects of falls prevention and patient care. For example, an exercise to understand patients’ emotions demonstrated that the majority of patients felt “reassured” and “safer” since the introduction of measures. Staff morale was boosted after wards purchased much needed equipment. Some of the success was provisionally measured by how well the care bundle had been delivered, although the impact of the project on falls rates could not be determined as longer periods were required, hence the final report by Spring 2012.

## ***2.6 Assessing for falls risks***

Hospital patients should be regarded as a different population to community-dwelling patients as they are more likely to experience acute illness, delirium, dementia and cardiovascular problems (NPSA, 2007; Titler et al., 2011). Much of the focus of falls risk literature has been on the identification of risks with the intention of using this information to develop standardised, numerical falls risk assessment tools; some of these have been validated for an in-patient setting (Heinze et al., 2008; Vassallo et al., 2005; Oliver et al., 2004).

### ***2.6.1 Risk factors***

Risk factors can be categorised into either being intrinsic to a patient (e.g. attitudes to risk, independence, mobility, visual deficits, medical conditions, delirium etc.) or extrinsic (e.g. medication, loose carpets, steps, footwear, wet floors etc.). The key risk factors for hospital-based patients include impaired mobility/balance, confusion and agitation, incontinence, previous falls, and taking sedative medication (Titler et al., 2011; NPSA, 2007; Oliver et al., 2004). These factors were included in local guidelines produced in 2002 and updated in

2005 by the NHS Trust where this doctoral study was performed, and formed the basis of a numerical checklist that staff were obliged to complete upon each admission (Appendix 7 for copy). This checklist, also known as the Falls Risk Assessment Tool (FRAT), was repeated after each falls incident and kept in patients' medical notes. It was based on guidelines published by the American Geriatrics Society et al. in 2001, and also aided the Trust to design pathways and a plan of interventions. The checklist highlighted key risk factors associated with falls, including history of falls, dizziness/blackouts, mental state, vision, medications, elimination, environmental hazards and unsteadiness. Actions generated from the identification of risks included referral to the Integrated Falls Service, the Guide to Care Planning and/or the Falls Prevention Plan.

### **2.6.2 Risk assessment tools**

Despite the common usage of risk assessment tools in hospital settings (Oliver et al., 2004), there are fundamental issues related to patients being identified as being at risk of falling. One of the major benefits of using a risk tool is to raise staff awareness and direct the provision of resources more appropriately so as to reduce the risk of this patient experiencing a fall (ACSQHC, 2009; Vassallo et al., 2005). However, there are several concerns that highlight the pitfalls of hospitals readily adopting such methods of quantitative risk assessment uncritically (Oliver, 2008). The predictive value of risk of risk assessment tools has been shown to under- or over-predict the likelihood of a patient to fall (Oliver, 2007).

A busy hospital ward, with staff managing the care of acutely unwell patients etc., is clearly different to community-based settings, such as patients' own homes. Screening risk assessment tools should be able to be performed easily, quickly, with minimal use of equipment, and with mutual agreement between assessors (i.e. ward staff) (Oliver, 2007). The NPSA collected data regarding factors that contributed to in-patient falls and stated that this information could be affected by staff's knowledge of the causes of falls, patients' conditions, and patients' accounts of their falls (NPSA, 2007; Wright et al., 2007). Therefore, there is a need for tools to be practical if they are to be operationally useful.

Due to the significant differences between environments, a tool should be specific to the clinical setting in which it is to be implemented and validated to be used with that particular

population (Myers, 2003). A clinical ward/hospital should not adopt a tool arbitrarily, nor should a 'home made' tool be created (Oliver, 2007). Despite the falls checklist used by the NHS Trust involved in this PhD study being informed by the evidence (AGS, 2001) it was unclear of the exact origins of the FRAT.

There is a need for a consequential relationship between the identification of patients at risk and appropriate actions to be taken (Oliver, 2007). Assessment needs to be followed by intervention (ACSQHC, 2009), and so a clear pathway should be actioned once a patient's risk status has been established to avoid false reassurance (Oliver, 2007; NPSA, 2007; Oliver et al., 2004). Best practice advocated by the literature is to identify the risk factors that are preventable, reversible or at least modifiable (e.g. postural instability, lower limb weakness, 'culprit' medications, acute delirium etc.) and target those in each individual (Titler et al., 2011; Oliver, 2008; Oliver, 2007, Lord et al., 2007).

## ***2.7 Falls prevention strategies for in-patients***

The majority of the literature concerning falls in any clinical environment has focused on prevention strategies, including single trials and systematic reviews such as a Cochrane Review (Cameron et al., 2010). There is still much debate regarding the best approach to managing the problem of hospital-based falls, primarily as there is insufficient data, certainly in comparison to community-based studies (Gillespie et al., 2009; NPSA, 2007). However, growing interest in researching the area has meant that there are now guidelines as to what constitutes best practice. NHS organisations have already begun to adopt effective measures of reducing falls rates (RCP, 2011) and this will inevitably continue to develop as the evidence-base is strengthened by studies investigating specific components of what is considered to be a complex area (Cameron et al., 2010; Campbell and Robertson, 2009; Gillespie et al., 2009; Oliver, 2008; Kannus et al., 2006). This section will initially set the broad context of prevention strategies within an in-patient setting before focusing on specific studies more relevant to the underpinning themes of this study.

### ***2.7.1 Falls prevention: Cochrane Review (2010)***



Previous Cochrane Reviews have focused on interventions preventing falls in older people living in the community (Gillespie et al., 2009) and exercise for improving balance in older people (Howe et al., 2007). The Cochrane Library published a review (Cameron et al., 2010) that evaluated randomised controlled trials (RCT) of interventions for preventing falls in older people in nursing care facilities and hospitals. The review aimed to inform best practice and to provide direction for future research. It differed from an earlier Cochrane Review as it recognised that patient characteristics and the environment influenced the types of interventions implemented by professionals with different skill mixes in different clinical settings. This was substantiated further by the review as data concerning nursing care facilities were separated from hospital-based studies.

Numerous outcome measures were used in the review, including number of falls, number of fallers, severity of falls, fractures/deaths, and complications of the interventions. Interventions were classified according to a taxonomy developed by the Prevention of Falls Network Europe (ProFaNe), which detailed categories and sub-categories of types of interventions, such as exercises, medication, surgery, environmental/assistive technology etc. 41 studies were included, with eleven of these being based in hospital settings. Seven trials tested the effect of a single intervention and four trials tested a multifactorial intervention i.e. those comprised of several components, often including exercise, education, review of medication and environmental risk modification (Cameron et al., 2010).

The first key finding of the Cochrane Review was that the effectiveness of supervised exercise within a sub-acute setting to reduce falls or reduce falls risk was inconsistent (Cameron et al., 2010), partly due to the differences between the patients recruited for the three hospital studies reviewed (Barreca et al., 2004; Donald et al., 2000; Jarvis et al., 2007). However, the collective data of these three studies showed a significant reduction in the risk of falling (risk ratio 0.44, 95% confidence interval 0.20 to 0.97:  $I_2 = 0\%$ ). Barreca et al. (2004) demonstrated similar falls rates between the control ( $n = 3$ ) and intervention ( $n = 3$ ) groups; Donald et al. (2000) found reduced falls rates between control ( $n = 17$ ) and intervention ( $n = 5$ ) participants; falls rates could not be determined in Jarvis et al. (2007).

Other single interventions, such as medication targeting (vitamin D supplementation), psychological interventions and environmental/assistive technology studies, demonstrated no significant difference in risk of falling or reduction of fallers in a hospital setting. There was a significant increase in the rate of falling on carpet flooring (Donald et al., 2000), and

one study reported a non-significant increase in the risk of falling in an intervention group (27 intervention versus 21 control; hazard ratio of 1.3 = 95% confidence interval: 0.8 to 2.4) wearing a blue identification bracelet (Mayo et al., 1994). The findings from four hospital multifactorial studies showed various significant reductions in rate of falls and risk of falling: Cumming et al. (2008) found 9.26 falls per 1000 bed days (intervention group) and 9.20 falls per 1000 bed days (control group),  $p = 0.96$ , 381 total falls; Stenvall et al. (2007) found 6.29 falls per 1000 bed days (intervention group, 18 total falls) and 16.28 falls per 1000 days (control group, 60 total falls),  $p = 0.006$ ; Haines et al. (2004) found 30% fewer falls in the intervention group ( $n = 105$ ) compared to the control group ( $n = 149$ ), relative risk 0.78 (95% confidence interval 0.56 to 1.06); Healey et al. (2004) found their intervention group ( $n = 180$ ) had fewer falls than the control group ( $n = 319$ ) six months following the introduction of the intervention (risk ratio 0.71, 95% confidence interval 0.55-0.90,  $p = 0.006$ ). However, the number of reported fractures could not be analysed due to insufficient data, and the pooled data of the studies were not necessarily applicable to hospital settings where there were short lengths of stay. The review stated that it was difficult to interpret multifactorial interventions due to the complexities of having different component elements.

The adverse effects of implementing falls prevention strategies were briefly explained in the review. It was noted that interventions may, paradoxically, increase the risk of falls and injuries. Frail older people might be less likely to benefit from participating in exercise programmes (Faber et al., 2006). There was a balance between encouraging patients to be more involved in interventions and monitoring the subsequent risks inherently involved with increased activity (NPSA, 2007). The review suggested that there was a potential need to increase additional resources if hospitals implemented prevention programmes.

The Cochrane Review of interventions to reduce falls in hospitals and nursing care facilities (Cameron et al., 2010) was an invaluable addition to the growing evidence-base underpinning falls in acute care settings. The methodological quality of the review was high due to a robust approach towards searching for key literature, data analysis and inter-rater reliability. Part of the strength of this review came from the exclusive use of RCTs only. This ensured that the studies reviewed by Cameron et al. (2010) were good quality and added marked value to the field of in-patient falls prevention, yet by the same virtue excluded other studies which have made important contributions to the evidence-base.

There was insufficient data to evaluate the impact of particular aspects of interventions as it was established that there is too much variation in the literature regarding type, targeting, intensity and duration of falls prevention programmes. Strategies commonly applied in clinical settings, such as supervision of patients and alarm systems, have not been thoroughly researched in RCTs although have formed the basis of several studies (Haines et al., 2010; ACSQHC, 2009; Tzeng and Yin, 2008; Jackson and Gleason, 2004). Conclusions could also not be drawn regarding interventions that targeted environmental risks in nursing facilities and hospitals, despite the evidence that has suggested that this should form part of an overall prevention strategy (ICSI, 2010; NPSA, 2007; Drahota et al., 2007).

### ***2.7.2 Falls prevention: Oliver et al. (2006) and Coussement et al. (2008)***

In addition to the Cochrane Review, two other recent systematic reviews on the prevention of in-patient falls have been published (Oliver et al., 2006; Coussement et al., 2008). The review by Oliver et al. (2006) aimed to evaluate the strategies to prevent falls and fractures in hospitals and care homes, and to investigate the effect of cognitive impairment on preventing falls. Thirteen studies were reviewed that focused on hospital settings, including three RCTs, two cluster randomised trials, and eight prospective studies. These included interventions such as risk (factor) assessment, care planning, education programmes and exercise etc.

Despite the variation in these studies in terms of type of interventions, settings and populations, the review found that there was evidence to support the use of multifactorial interventions to produce modest reductions (up to 18%) in falls rates (risk ratio 0.82, 95% confidence interval 0.68-0.997,  $I_2 = 80\%$ ,  $p = 0.72$ ); this could not be comparable to fractures ( $p = 0.87$ ) or fallers ( $p = 0.18$ ). Similar to the Cochrane Review (Cameron et al., 2010), there were insufficient studies available to draw conclusions on interventions that were commonly applied in hospital settings e.g. fall alarms, environmental changes, or medication review as a single intervention. Many of the single interventions formed part of multifactorial approaches. The reviewers commented that the use of RCTs as the primary source of clinical evidence was not always appropriate in hospital settings where interventions are complex and consent is difficult to obtain (Oliver et al., 2006).

A systematic review and meta-analysis by Coussement et al. (2008) included eight studies - six RCTs and two controlled trials; the latter two studies were excluded from the 2010 Cochrane Review. The clinical settings included in the review were long-stay (more than 1.5 years) and rehabilitation units (mean length of stay 36.9 days - similar to the two rehabilitation wards that participated in this PhD study). The authors highlighted the two most common approaches to falls prevention - the use of single interventions and multifactorial interventions. Initially, three of the studies reported a 30-49% reduction in number of falls (reduce rate of falls 0.82 (95% confidence interval 0.65 to 1.03), although when this was recalculated after adjusting for clustering, this became non-significant. No studies reported a significant reduction in the number of fallers in either the single or pooled intervention groups.

Coussement et al. (2008) concluded that there was no high methodological evidence to support the effectiveness of falls prevention programmes in hospital settings. More studies were required to determine whether targeting an individual's risk factors could reduce the number of falls, particularly for more short-term hospital settings. The authors suggested a better link with community-based services so as to begin prevention programmes prior to hospitalisation. This was due to the differences being witnessed from only day 45 of admission. A better approach of identifying patients at risk is to target the individuals that have already fallen by performing a thorough post-fall assessment or to highlight the most common reversible/modifiable risk factors upon admission (Coussement et al., 2008).

All of the above systematic reviews used robust methods for the identification and analysis of relevant literature. Outcome measures were similar between the three reviews, and included number of falls, fractures, fallers and falls risk. In addition, the Cochrane Review included injurious falls and complications of the interventions as secondary measures (Cameron et al., 2010). Many studies were excluded from the three systematic reviews described above due to having what was considered to be low methodological quality. However, it was acknowledged that many other studies existed that could form the basis of future directions of research, particularly those that included interventions commonly used in clinical practice (Cameron et al., 2010). The three reviews recognised the insufficiency of evidence to make any definite conclusions on the effectiveness of falls prevention programmes. The current evidence does suggest potential improvements can be achieved if multifactorial programmes are implemented more than single interventions, although more studies are needed to verify or dispute this.

### ***2.7.3 Falls prevention: other studies***

Other studies which have focused on in-patient falls prevention include the assessment of falls risk (Kato et al., 2008; Williams et al., 2007; Hathaway et al., 2001); targeting key risk factors (Williams et al., 2007; Hathaway et al., 2001); assistive technology, such as sensors and alarms (Jackson and Gleason, 2004); exercise programmes (Haines et al., 2009; Haines et al., 2007; Steadman et al., 2003); staff education and professional consultations (Kato et al., 2008); bedrails (Healey et al., 2009; NPSA, 2007); the height of patients' beds (Haines et al., 2010; Tzeng and Yin, 2008); patient education (Haines et al., 2006); and different types of flooring (Drahota et al., 2007).

All of the above studies (and many more) shaped the design, methods and outcomes of this study by forming part of the initial process of identifying the problem in each cycle.

### ***2.8 Patients' experiences of falling***

A loss of confidence and changes to independence are common consequences of falling to an older person (ACSQHC, 2009). Therefore, to prevent further falls, injuries and help to maintain independence, it is important to design services based on patients' experiences (Coulter et al., 2009; NPSA, 2007).

Much of the literature based on exploring patients' views of falling has been based on community-dwelling older adults rather than hospital-based settings. However, a recent study by Carroll et al. (2010) explored patients' experiences of falling while in an acute care hospital. The authors commented on the lack of similar studies despite patients' experiences and their suggestions of how to reduce falls being an important aspect of falls prevention.

Using patient experience to design better healthcare is unique in the way it focuses on qualitative markers of improvement (NHSI, 2011). Understanding patients' experiences can help to identify factors which are an important part of the delivery of high quality care (NHSI, 2011).

### ***2.8.1 Experiences of falling in an acute hospital***

The study by Carroll et al. (2010) was considered to be a key text underpinning the first cycle of this study. Semi-structured interviews were used to ascertain an understanding of nine patients' experiences of falling, including any injuries sustained, if they were informed of falls risks, and their suggestions on how to prevent future falls during the remainder of their stay in hospital.

The authors identified specific reasons for falling that pertained to two over-arching categories: patients needing to use the toilet together with a loss of balance and a temporary, unexpected weakness. Patients' perceptions of what they could achieve safely were relegated to a more pressing urgency of needing to use the toilet/bathroom. This functional need assumed priority over the acceptance of any physical limitations. This was reinforced by the adoption of patterns of behaviour that differed from their habitual planning of tasks within a home environment. For example, one patient was so intent on using the bathroom that he did not take his usual precautions to manage his low blood pressure in the morning, and fell as a result. The patient's sleeping medications were thought to be at fault as his memory was impaired.

Patients wanted to retain their independence and to actively partake in therapy sessions, despite being told to seek assistance with functional tasks and not always having an accurate insight into their current level of functioning. This was hindered by an apparent lack of information from hospital staff, particularly regarding knowledge of their individual risks of falling. Patients wanted to be informed and involved with their care planning but reported that they were not. Communication from staff was inconsistent at times, which was explained by variations in staffing levels, training and experience.

Exercising greater caution when performing functional tasks was a strategy commonly applied by patients as they believed that this reduced the risk of a fall being caused by a careless mistake. Summoning for help in these occasions was reported to be difficult, often with patients being unable to physically reach for their alarm bell. There was a commonly held belief that patients were "bothering" the nurses when they called for help and were consequently reluctant to do so, despite needing assistance. This was partly explained by nursing staff not fully ensuring patients understood their roles and responsibilities with providing care. Even when the wards and staff were busy they had a duty to attend to

patients who required help. The authors suggested that a “clear and consistent message” to patients that help was available was a key implication for nursing practice.

This was an important qualitative study as it explored an area of in-patient falls where there is insufficient research. Even though the sample size was small ( $n = 9$ ), the study supports the need to understand the personal experiences and challenges of older people who fall while in hospital.

### ***2.8.2 Psycho-social experiences of falling***

Kong et al. (2002) investigated the psycho-social perspectives of twenty older Hong Kong Chinese patients who had recently experienced a fall either in hospital or whilst in the community and then later hospitalised. Semi-structured interviews were used to discover participants’ feelings about their experiences of falling, their concerns about falling, and changes in behaviour following a fall.

Three main categories emerged from the study: powerlessness, fear and seeking care. Different attitudes became evident from the participants, ranging from having a fatalistic outlook on their falls i.e. that falling was unpreventable and was a natural consequence of ageing, to more nonchalant or even stoical attitudes, whereby the fall had little impact on patients - they simply wanted to continue with their lives as if nothing happened. These attitudes were largely influenced by the types of injuries sustained with more serious injuries resulting in a more negative emotional aftermath.

The findings showed that the denial of falling and a lack of emotional attachment to an incident were related to conflict between a patient’s desire to remain independent and changes to their physical ability. Patients were not always forthcoming with their views on falling, partly out of fear of the repercussions on their care. For example, if they were highlighted as having an uncontrolled risk of falling then patients felt that decisions would be made to place them into more permanent care. A significant part of this was the feeling of being a burden to staff and family members, and thus being labelled as somebody who was more dependent on assisted care. Therefore, some patients were reluctant to draw attention to their fall, such as when summoning for help from staff (Carroll et al., 2010).

Patients would also dissociate themselves from their fall, believing that it was a mistake or a one-off accident, caused by a moment of carelessness. Self-management strategies began to emerge following a fall, including walking slower and exercising greater caution with functional activities (Carroll et al., 2010). Some of these strategies were based on simplified explanations of why patients fell which created the potential for patients to misinterpret certain warning signs. For example, one participant believed that their shoes were inappropriate and had caused them to fall, yet they did not appear to realise that they could have had underlying gait and balance problems which needed to be addressed.

The study showed how fear of falling could create a variety of consequences, such as immobility, unable to self care, a loss of personal freedom, sustaining an injury etc. (Lachman et al., 1998; Howland et al., 1993). At the root of these factors was the patients' fear of losing their independence. Many participants wanted to be kept informed and advised on falls prevention measures, whereas others adopted more of a passive role to their care, primarily due to a fear of the consequences of discussing their problems with staff, especially if patients believed staff lacked empathy.

The role of family members was discussed in the study in terms of patients wanting to receive support following a fall. Relatives were considered to be a positive resource of support, and the authors suggested they should be more involved in patient-care, particularly to facilitate social interaction, rather than being seen as a hindrance or barrier to progress.

In view of the psychosocial consequences of falling, the study recommended a better assessment of perceived causes and vulnerability to falls and coping mechanisms, which could include some form of counselling. Staff needed to be more pro-active in recognising the negative effects of a fall by indentifying specific patients' needs and providing appropriate interventions (e.g. information) to address problems in the recovery phase of a fall.

### ***2.8.3 National support for patients' experiences of falling***

Despite the difference in environmental context, the Royal College of Physicians (RCP) conducted a pilot postal questionnaire to determine the experiences of older people, who



had fallen and attended a falls service (RCP, 2010). The RCP had a 36% response rate, which was 1008 out of 2784 participants, recruited from 96 NHS Trusts. This was a major piece of work that complemented earlier national audits (RCP, 2009; 2006).

The majority of older people who participated in the study were positive about their experiences of their local falls service, with responses varying between 58% and 95%, although many reported being dissatisfied with the quality of communication between different health professionals and from professional-to-patient. Some of the most common examples were patients believing that information was not explained to them fully and not being sure of what actions were being taken to address their problem. Many respondents did not feel confident in the immediate management of their fall, including being able to get up from the floor and/or summoning for help. In terms of preventing further falls, participants commonly reported engaging with exercise interventions to varying degrees. The evidence-base supporting some of these exercise programmes was limited, although there appeared to be a general consensus of wanting to continue to exercise, albeit with additional help and advice.

The RCP made recommendations based on the findings of the pilot study which focused on communication and exercise interventions. One of the key messages regarding the former was the need to identify and document the concerns of individuals at each stage of their falls management. This should directly inform treatment planning. Information should also be provided to patients and their families, including the results of any investigations (Kong et al., 2002). It was believed that these recommendations would take time but would improve patient satisfaction, adherence to interventions, and ultimately, a reduction in the number of patients using falls services.

In the 2007 landmark document by the National Patient Safety Agency that focused on falls in hospitals, there was a chapter that specifically reported the need to determine patients' views on falls prevention (NPSA, 2007). It was recommended that patients' wishes should be considered by staff as acute illness or confusion could act as barriers towards understanding, consent and adherence to interventions. The NPSA report (2007) recognised that there were very few studies available that researched the experiences of patients falling in hospital other than to educate them or ask their views on prevention strategies. It concluded that patients need to be more involved in developing policies to

address the problem of falling in acute care settings. This was considered to be fundamental to improving services and changing practice.

Haines et al. (2006) was referenced by the NPSA report as this study used an RCT design to evaluate the effectiveness of a patient education programme for preventing falls in a sub-acute hospital. A subgroup of 226 participants were recruited from a larger RCT conducted by the same authors. Participants received two sessions with a research occupational therapist, which were largely educational (e.g. explaining falls risks and prevention strategies etc.) and provided an opportunity for patients to openly discuss health matters. The primary outcome for the study was falls rates. Key findings of the study showed a significantly lower incidence of falls in the intervention group (i.e. participants who received an education programme alone or in combination with other interventions), although not for number of fallers: control group 16.0 falls per 1000 days, intervention group 8.2 falls per 1000 days,  $p = 0.0007$  (relative risk 1.21, 95% confidence interval 0.68-2.14).

## ***2.9 Staff Education and Effective Team-working***

There have been studies that have involved a focus on educating professionals on the various aspects of in-patient falls. An important aim of this study was to educate staff of the issues which were most prevalent among patients, and to raise their awareness of strategies to improve services that have been established in the literature.

### ***2.9.1 The role and benefits of educating staff***

Educational experiences, discussions and shared learning activities have been found to enhance professional knowledge (Brajtman et al., 2008; Sheehan et al., 2007; Gibb et al., 2002). In an article by Wright et al. (2007), three key factors were considered to be essential to any facility working to improve its approach to falls management. A series of training programmes highlighted the need to develop effective communication, a review of fall management policies and procedures, and thirdly, the establishment of a falls team (Wright et al., 2007).

Once a resident had fallen, each nursing assistant charged with the care of this older person was interviewed to determine their knowledge of the fall and any changes made to the care plan. The authors found that the nursing assistants, who were in a position of primary care-givers, were generally unaware of the resident's fall. It was concluded from this point that an effective system of communication was needed to ensure that all frontline care staff were informed of a fall event and any subsequent changes made to that person's care plan. This would have prevented any unnecessary barriers to the implementation of therapeutic interventions.

When the falls management policies and procedures were reviewed as part of the training programmes developed by Wright et al. (2007), important elements were found to be absent. Following a fall, specific staff members could not be identified to assume responsibility for critical components of falls management, including assessing for falls risks, care planning, or post-fall investigation. There was a lack of recognition for residents with special needs or cognitive impairments. Therefore, commonly applied interventions were found to be ineffective for people with dementia. There was a failure of staff noting changes to falls risk, such as when a resident had changed their medication. Staff members were educated on the key risk factors of falling, which also impacted on their knowledge of falls prevention strategies. The educational sessions with staff raised their awareness of the relationship between assessing for falls risk and implementing the necessary steps to reduce the risk of future falls. This had to be clearly documented in the care plan for each person.

The final key element of an effective approach to managing falls was the development of a team of professionals directly responsible for overseeing each aspect of a fall (Brajtman et al., 2008; Reilly, 2001). Education was a fundamental element of building the teams (Gibb et al., 2002) as members were expected to attend educational workshops, in-service training programmes and teleconferences. They were also responsible for cascading information to their work colleagues. The authors discovered two challenges within this process. Firstly, it was considered that the falls team should be interdisciplinary (IDT) in its composition rather than multidisciplinary (MDT). The inherent differences between these two team structures deemed an IDT to be more suited for the purpose of the research (Abyad, 2004). The characteristics of the IDT included a greater overlap of professional roles and shared problem-solving (Sheehan et al., 2007); complimentary professional contributions to patient-focused care (McCallin, 2001); and the evaluation or development of

a plan based on joint-working and a group decision (Reilly, 2001; Sorrells-Jones, 1997). The authors of the study decided to improve the level of co-operation between team members (Wilson, 2005), which was identified to be the second challenge, by using team-building activities (Chapman et al., 1995).

The falls team in each facility was essentially developed through a series of effective team-working practices which facilitated participatory management. Educating care workers, health professionals and facility managers was fundamental to this process. As the program developed over a period of several months, the research team began to have less direct involvement as staff co-operated together (Wiechula et al., 2009; Portillo, 2008; Ross et al., 2005). The authors found that staff became more empowered at managing falls incidents as a team. Furthermore, each team underwent a gradual transition of how they approached patient care. By having closer working partnerships and shared decision-making, each team made a shift from being isolated individuals, typical of a MDT (Reilly, 2001; Sorrell-Jones, 1997), towards being more interdisciplinary (Sheehan et al., 2007). There was more mutual respect as team members' contributions were recognised (Reilly, 2001), and the relationship between staff and managers improved, with the former being asked for suggestions and ideas for service development (Wilmott, 1995). Falls rates were reduced throughout this process, and were seen to be a direct result of better professional practices.

Despite the discursive nature of the paper, Wright et al. (2007) lacked methodological quality in several areas. For example, numbers and characteristics of participants, background literature, recruitment and sampling procedures, and methods of data analysis were inadequately described. However, Wright et al. (2007) was included in this literature review because of its central relevance to this study.

### ***2.9.2 Staff training and motivation***

Kato et al. (2008) conducted an action research study to develop a falls prevention program for elderly Japanese people. The aim of their study was to target the individual falls risk factors of 51 elderly patients in a long-term care facility by improving the skills and motivation of the professionals charged with delivering patient care. The study used evidence-based practice as an important means of supporting the falls prevention program.

Collaboration between the lead researcher and ward staff was considered to be essential so as to increase the effectiveness of the program and improve motivation (Kato et al., 2008).

Staff education was a critical component of the program as it was deemed important to raise their awareness of the extent of the problem by explaining the causes, consequences and preventative measures of in-patient falls. An appropriate risk assessment tool was used to identify key factors for each patient, and care plans were modified accordingly with preventative actions being taken as necessary. Finally, the institution's falls prevention team provided input within a consultation capacity to discuss any falls-related concerns or problems with ward staff.

The authors found that the falls prevention program was effective at reducing the falls rates and number of injurious falls. They believed this was due to a strong theoretical and evidence-base which supported the purpose and specific elements of the program. The program focused on individual risk factors which has been shown to be a critical aspect of falls prevention (Titler et al., 2011; Oliver, 2008; Coussement et al., 2008; Lord et al., 2007; NPSA, 2007). Staff members' clinical judgment was flexible in terms of considering the special needs of each patient, although it was believed that future programs needed to supply additional care for patients who were released from their restraints. Staff education was important to provide staff with theoretical and practical skill development, and to increase their overall motivation to be more active with care planning.

There was one major adverse effect that was identified by the study. The number of falls increased during the six-month research period but this was believed to be related to a lack of guidelines and falls reporting mechanisms, as well as reactive care planning; staff would only create a falls prevention plan after a patient had fallen, not before.

The main change agent identified from the study was the importance of staff's views on falls prevention issues. This formed the basis of the reflective and feedback activities which was explained through the use of Newman's (1995) Theory of Health as Expanding Consciousness. The response of the patients and families to the falls program improved staff motivation as they believed that patient care was better. Finally, it was recognised that there was a need to co-operate with other members of staff to resolve any conflict within the team. Improving team-working relationships was a key step towards ensuring continuity and a sense of ownership for long-term falls management. Within this process was the potential

to achieve similar results in other medical settings as a significant implication for nursing practice.

The authors were unable to determine which component of the falls program achieved the most success. This was supported by Kannus et al. (2005) as the authors suggested that specific components of a multifactorial intervention cannot be solely identified as producing the most effective outcomes. Hence, interventions are generally characterised into those having single or multiple parts (Cameron et al., 2010; Coussement et al., 2008; Oliver, 2007). Kato et al. (2008) also recognised that there was a lack of staff who participated in the study. Only those working full-time were recruited, even though it was common for the facility (and other hospitals) to employ a range of staff in different capacities. Therefore, any future program would need to manage the issue of staffing variations and how this would impact on the provision of care and falls prevention strategies.

### ***2.9.3 Interdisciplinary teams and falls prevention***

Similar to the study by Kato et al. (2008) (see section 2.9.3), the evidence-base underpinning the benefits of collaborative team-working supported the use of sessions with ward staff as a strategy for facilitating changes in clinical practice and service improvement. Other studies have used this approach to generate some form of positive outcome in a healthcare setting. Renteln-Kruse and Krause (2007) investigated the effect of an interdisciplinary team (IDT) approach on falls prevention in geriatric hospital wards over a three year period. This was a prospective cohort study that involved 4,272 patients before (for 22 months) and 2,982 patients after (15 months) the introduction of a specialised falls prevention IDT. The team were responsible for preparing all materials for educating and training patients and staff, with a particular focus on falls risks and falls situations in hospitals. Individual risk factors were addressed by an appropriate intervention e.g. suitable mobility aids were immediately provided for patients with walking and balance impairments. Before the intervention was introduced, 893 falls were recorded; post-intervention, only 468 falls were recorded (incidence rate ratio 50.82, 95% confidence interval 50.73-0.92); 240 versus 129 total injurious falls (IRR 50.84, 95% CI 50.67-1.04); 10 versus nine falls with fracture (IRR 51.40, 95% CI 50.51-3.85); and 611 versus 330 fallers. The relative risk of falling was significantly reduced (0.77, 95% CI 50.68-0.88).

The authors made special mention of the study being performed under “real life” conditions of clinical geriatric practice. The study also included measures of patients’ functional status - primarily activities of daily living and mobility, including transfers and walking aids, which have often been excluded from other studies (Renteln-Kruse and Krause, 2007). There was no description of what constituted an IDT or why this approach was chosen. Furthermore, no measures were taken to describe the dynamics of the falls team. However, the study focused on more ‘tangible’ outcomes as the aim was to evaluate the intervention (i.e. the falls team) on in-patient falls, and as such, was successful at achieving this purpose. It gave an indication, albeit poorly described, how the role of an IDT could impact on older peoples’ services.

A team-based falls prevention program was also used by Schwendimann et al. (2006). Similar to Renteln-Kruse and Krause’s study above, there was a strong focus on quantitative data rather than evaluating the processes involved in an IDT. A serial survey design was used to examine in-patient falls rates and consequent injuries before and after the implementation of falls prevention programme. Administrative patient data and incident reports from a 300-bed urban hospital were reviewed and described the circumstances of 3,842 falls affecting 2,512 fallers. From these falls, 2,552 (66.4%) were non-injurious, while 1,142 (29.7%) falls resulted in minor injuries, and 148 (3.9%) falls resulted in major injuries. The study found that the total falls rate per 1,000 bed days slightly decreased over the four year research project (9.1 to 7.8,  $p = 0.086$ ), although there were no significant reductions in the incidence of falls or injurious falls.

Vassallo et al. (2004) conducted a quasi-experimental study to investigate the effect of changing practice on falls prevention in a rehabilitation hospital by using a multidisciplinary team (MDT) approach. 825 patients were recruited for the study - 550 on two control wards (routine care) and 275 on the experimental ward. Weekly team meetings were used to discuss patients’ falls risk and to modify care plans accordingly (i.e. to address risk factors). Outcome measures included number of fallers, recurrent fallers, total falls, injurious falls, falls per occupied bed days, place of discharge and mortality. Falls risk was assessed by a tool that was validated for use on the experimental wards, with good sensitivity scores, but poor specificity and predictive values. To compensate for the latter issues, all patients were considered for fall-prevention measures. Control wards had proportionally more fallers (20.2% versus 14.2%:  $p = 5.033$ ), patients sustaining injury (8.2% versus 4%:  $p = 5.025$ ), and total number of falls (170 versus 72:  $p = 5.045$ ). These results did not remain significant

after controlling for differing length of stay. There was no reduction in recurrent fallers (6.4% versus 4.7%:  $p = 5.43$ ) and no effect on place of discharge (home discharges; 57.5% versus 60.7%:  $p = 5.41$ ) or mortality (15.3% versus 13.8%:  $p = 5.60$ ).

Recruitment strategies, methods, statistical analysis and outcomes were all appropriate to meet the aims of the study. Ethical concerns were adequately described in view of the study being an evaluation of an existing service. The authors admitted that falls could be reduced in a MDT prevention program but the results were not definitive as the outcomes (e.g. fallers, total falls, injurious falls, and falls per occupied bed days) were not statistically significant, and the variance in length of stay between the wards affected statistical analysis.

#### ***2.9.4 Facilitating interprofessional collaboration***

There are very few studies that have explored the role of interprofessional collaboration and falls in older people. Most of the studies described earlier (Kato et al., 2008; Renteln-Kruse and Krause, 2007; Schwendimann et al., 2006) used interdisciplinary teams to administer falls prevention programmes yet focused on quantitative outcomes to determine their effectiveness rather than investigating the dynamics that occurred within those teams. There were no explanations of why the authors implemented this team structure to address in-patient falls or any description of what constituted an IDT.

Despite the different environmental context (i.e. the community rather than an in-patient setting), a qualitative study by Baxter and Markle-Reid (2009) used an exploratory descriptive design to describe the experiences of health professionals who participated in an IDT approach to care for frail older people living in the community and at risk of falling. In the abstract, it was stated that five participants were recruited for the study yet the true number was nine. Despite this mistake, the authors conducted a thorough review of the literature that focused on team-working and falls. The research questions were clearly stated, and the context of the study was explained in detail. This was particularly important as this was a sub-study that began three months into a larger RCT that aimed to determine the effects and costs of a multifactorial and interprofessional team approach to falls prevention.



Focus group sessions were held with the nine health professionals which strengthened the communication between team members; this has been found to be a critical element of interprofessional collaboration (Baxter and Markle-Reid, 2009; Sheehan et al., 2007). The sessions were conducted after six months and at the end of the nine-month research period.

Several key themes emerged from the study which highlighted important factors of interprofessional collaboration. Knowledge of other members' roles and responsibilities was considered to help build team capacity, defined as the ability to work together for a common purpose (i.e. towards positive patient outcomes). A lack of understanding of how individuals' roles related to others was seen to be a barrier towards care, whereas working in a climate of professional trust, mutual support and comfort in sharing ideas on how to reduce falls for frail older patients was central to facilitating interprofessional collaboration. Having opportunities to discuss patient care directly with one another in a private and quiet environment were valued by the participants as these were seen to provide a means of developing communication (Bennett-Emslie and McIntosh, 1995).

Gathering and sharing information with each other was fundamental to the promotion of professional collaboration (Sheehan et al., 2007). Problems were discussed, care plans were modified, and goals were set to evaluate the effectiveness of patients' needs, particularly regarding the issue of falls. Participants described their collective agreement of the importance of having organisational support, yet did not report problems with power, education or status, which can be potential barriers to effective team-working (Clark, 1997; Cott, 1997) and can lead to interprofessional conflict (Wilson, 2005).

One of the aims of this study was to promote interprofessional collaboration with a focus on falls prevention. This approach has been associated with more effective and efficient health provision (Baxter and Markle-Reid, 2009). Better team-working practices have been shown to lead to a range of intrinsic and extrinsic benefits. Examples of the former include enhanced individual performances (Thylefors et al., 2005) and job satisfaction (Wilson, 2005); opportunities to share knowledge and skills (Gibb et al., 2002; Reilly, 2001); increased mutual respect and professional growth (Reilly, 2001); shared responsibilities for problem-solving and decision-making (Reilly, 2001); a supportive working climate (Batorowicz and Shepherd, 2008; Thylefors et al., 2005); and also more equal distribution of responsibilities (Reilly, 2001). Examples of the benefits which go beyond the realms of the

team itself include improved care outcomes and discharge planning; a proactive approach to implementing interventions to address individual needs (Gibb et al. 2002); prolonged life in geriatric care (Weiland et al., 1996); greater patient satisfaction (Reeves et al., 2002); an integrated holistic view of the patient; and ultimately, efficient and flexible services (Gibb et al., 2002).

### **2.9.5 Summary**

This chapter has covered the fundamental aspects of this study, namely how a fall is defined and understood, particularly in relation to forming part of incident reporting processes; a relevant historical background to in-patient falls to demonstrate the extent of the problem; an outline of significant systematic reviews and guidelines as evidence for national support for best practice; the assessment of falls risk factors, and how they have contributed towards the development of standardised tools; a description of current falls prevention strategies to reduce falls for hospital-settings; patients' experiences of falling, including psycho-social consequences and national support; and finally, a section on staff education and effective team-working.

## CHAPTER THREE

### METHODS

This section of the thesis will set the philosophical and theoretical context for the study. It will explain the methodological approach used to understand and impact upon the phenomenon of elderly patients falling in hospital. It will describe and justify the reasons underpinning the methods of data collection and analysis. Finally, this chapter will illustrate how the research aims were addressed through an evolving, cyclical and flexible research design (Robson, 2011).

#### **3.1 Research aims**

This study was comprised of one primary aim and four secondary aims.

##### *Primary Aim:*

- To facilitate changes to in-patient rehabilitation services for older people, with a focus on improving falls prevention by exploring patients' experiences and collaborating with NHS staff

##### *Secondary Aims:*

- 1) To gain an insight into the perceptions of patients and staff of the causes, consequences and experiences of hospital-based falls
- 2) To examine ward-based falls documentation
- 3) To facilitate collaborative learning and raise staff awareness of issues relating to patients' experiences of falling
- 4) To make recommendations for clinical practice and service improvement

The remainder of this chapter will explain the methodology and methods used to fulfil these aims.

### **3.2 Philosophical Perspective**

It was important to have a clear understanding of the set of beliefs that underpinned this research study (Proctor, 1998). The term ‘paradigm’ has been commonly used in the natural and social sciences to describe a broad set of practices or beliefs that explain the nature of the world, the individual in the world, and the interrelationship between these and their component parts (Kuhn, 1996; Guba and Lincoln, 1994). By clarifying the philosophical position that embraced this research, it added a degree of credibility to the work that distinguished it from lay knowledge (Houldsworth, 1995). Furthermore, it enhanced the overall design and completion of the research by ensuring more appropriate choices and consistency in research methods. By being explicit in the study’s philosophical approach, the research gained a deeper insight into the connections between the nature of reality (‘ontology’), the extent and theory of knowledge (‘epistemology’) and the ways in which these can be understood (‘methodology’) (Blaikie, 2007). It is the combination of these three elements that comprise the philosophy of a paradigm (Wainwright, 1997).

#### **3.2.1 Positivism and phenomenology**

It was important to acknowledge two well-established philosophical approaches at the beginning of this study so as to place the research into context. The first of these approaches is *positivism*, which has its roots in the natural sciences. It assumes that reality is what we experience and, therefore, its effects can be directly observed and objectively measured, predominantly through the use of quantitative methods (Blaikie, 2007; Proctor, 1998; Wainwright, 1997). Positivism adopts a deductive stance and seeks to identify causal mechanisms that produce phenomena. Its explanations are founded in the testing of hypotheses so as to verify or refute generalisable scientific laws. At the other end of the paradigm scale is *phenomenology*. This approach is in stark contrast to positivism as it advocates a more subjective explanation of reality. It places a strong emphasis on individuals and how they give meaning to their world (Blaikie, 2007). A fundamental aim of phenomenological research is to obtain a better understanding of these meanings and

perceptions, being neither objective nor value-free. It recognises that the researcher plays an integral part of this process and the understanding cannot be free from the beliefs and values of the researcher; theory is generated from within the research environment. Unlike positivism, which is ardently focused on generalisation of knowledge, phenomenology is principally concerned with investigating understanding through an inductive rather than deductive strategy, usually following a qualitative methodology (Blaikie, 2007).

### **3.2.2 Critical realism**

This study required a philosophical base that accurately reflected the aims and contextual issues of the research. Neither positivism nor phenomenology were sufficient in addressing the complex nature of falls in this healthcare setting. For example, much of this study involved the exploration of the attitudes and experiences of patients and staff, so a positivist approach was not suitable. Equally, the two wards were subject to organisational constructs, procedural structures and internal politics that a phenomenological paradigm could not adequately explore. Therefore, an approach that encompassed elements of both these theories was needed. Realism (also known as 'critical realism') was chosen as the underpinning philosophical perspective for this study as it describes reality in terms of internal subjective beliefs (i.e. the perceptions and behaviours of individuals) and the external objective mechanisms that are independent of such beliefs (Blaikie, 2007; Proctor, 1998). It has been regarded as offering a more comprehensive alternative to previously mainstream philosophical approaches. This paradigm recognises the influence that internal and external processes have on reality, and so retains elements of phenomenology and positivism.

Realism advocates a three-tiered ontology to the understanding of causal mechanisms (Williams, 1999). The first domain is concerned with empirical experiences, which are the outcomes of observable events; the second domain refers to actual events, which are the results of either observable or non-observable mechanisms; finally, the third domain are the real processes which make reality and cause events (Proctor, 1998; Wainwright, 1997). Through these three ontological domains, realism can distinguish the causal mechanisms of phenomena on a variety of natural planes of existence. Understanding these mechanisms is an important aim of realism to both the natural and social sciences. There are two main schools of thought within the realist approach. Harré emphasised a more subjective

approach, arguing that individuals' cognitive processes characterise reality, whereas Bhaskar stressed the significance of underlying structures on reality, such as politics (Williams, 1999; Proctor, 1998).

Realism recognises the positive impact of the role of the researcher and research environment on the causality of phenomena. This recognition is achieved by maintaining an awareness of the many influences on social behaviour. It is this awareness that enabled me as the researcher to have a more intimate understanding of my involvement within the study. In contrast, a positivist approach would typically seek to control levels of objectivity to test hypotheses, whereas a phenomenological study would openly encourage subjectivity as part of the process of developing theory. Research following a realist paradigm accepts elements from both these approaches and is flexible in the application of them. In this study, it was important to maintain a degree of objectivity so as to test lay concepts that were developed in the first cycle of the research; conversely, the role of "outsider" had to be partly relinquished so as to cultivate closer working relationships with NHS staff in the second cycle of enquiry.

### ***3.2.3 Research strategies***

Two common strategies used to map the reasoning process of a study are known as induction and deduction. The former is usually associated with phenomenology, and involves collecting data without testing hypotheses; the latter is more firmly grounded in positivism, and begins with a hypothesis and aims to test the degree of truth of that hypothesis (Blaikie, 2007; Proctor, 1998). A research strategy was required to obtain an understanding of the phenomenon and then to use this understanding to inform and test the effectiveness of an intervention method. Therefore, two additional research strategies, known as abduction and retroduction, were employed in this study (Blaikie, 2007). Both use a cyclical approach that resembles the methodological framework underpinning action research.

Abduction emphasises the need to understand the meanings contained within the language that individuals use to describe their view of the world. Their accounts are collected and analysed before being developed into theoretical models used to explain reality. This approach was used extensively in the first cycle of this study whereby patients were

interviewed to gain an understanding of hospital-based falls events. Their accounts of the phenomenon generated a revised insight into the problem and the basis for a second cycle of enquiry that utilised a retroductive strategy.

A key tenet of retroduction is the need to discover the mechanisms that cause phenomena through the formation of theoretical models (Proctor, 1998). Bhaskar (1979) described three stages of ascertaining or developing scientific knowledge:

- identification of phenomena
- explanation of their structure
- empirical testing

These processes demonstrate the three domains central to realism - actual, real and empirical reality. In this study, retroduction was used to take the enhanced understanding of the phenomenon and test it through the development of an intervention strategy. Educational focus groups (referred to as 'collaborative learning groups' - Gibb et al., 2002) involved NHS staff and the analysis of incident report forms were used to gain a deeper comprehension of the problem. The combination of abduction and retroduction strategies has been shown to be an effective approach in realist research (Blaikie, 2007; Proctor, 1998).

A realist perspective allows for flexibility in the choice of research methods as it claims that truth can exist from a wide range of approaches (Clark, 2003). The implementation of different yet complementary strategies can provide a range of techniques to understand reality through the development of conceptual frameworks and the testing of theoretical hypotheses (Proctor, 1998). This provided the study with a more defined understanding of the internal and external processes surrounding the phenomenon, which is considered fundamental to critical realism.

The realist perspective established itself as a more balanced philosophical approach to address some of the fundamental inadequacies of positivism and phenomenology (Clark, 2003). It emphasises that truth exists in both the subjective meanings of individuals and external structures; both of these influence behaviour and produce phenomena. This approach was considered appropriate for this study as it acknowledged the diversity and richness of lay and professional perspectives, as well as the organisational complexities of

a NHS healthcare setting. This was essential in acquiring a deeper understanding of the phenomenon and then using this knowledge to develop an intervention strategy for change and service improvement.

### ***3.2.4 Developments in Critical Realism***

Critical realism began as a philosophy to transcend conventional scientific enquiry by insisting that natural things exist independently of human theories and activity, and by emphasising the importance of powers and tendencies over regular recurrences of phenomenon (Dean et al., 2005). Knowledge is constrained by time and space, yet remains a flexible concept as it can be, and is, changeable in the future. Critical realism argues that knowledge can create rational choice in describing reality as an epistemological sense of the possibility of truth. To ignore the distinction between the natural and social sciences is to reject how reality influences our knowledge. Critical realism accepts the need to understand (physical) science yet acknowledges the epistemological pitfall of solely relying on reductive scientific explanations of reality.

To understand the personal experiences of patients and staff, as well as to explore the influence of external mechanisms such as ward policies and guidelines on these experiences, critical realism was considered as the fundamental philosophical framework underpinning this study. Each participant had personal knowledge to share; equally, the study had to acknowledge the importance of factors that existed within the reality of the participants yet remained partly separate from their own lives, for example, national health agendas, organisational directives, and micro-political constructs. Adopting critical realism as the philosophical basis for this study promoted the drive to explore phenomenological matters within the complex and specific nature of hospital-based falls, as well as gaining an understanding of conventional factors more commonly studied through a positivist paradigm.

#### ***3.2.4.1 Development of the foundations of critical realism***

The foundations of critical realism have developed into a modern philosophy of science beyond its Humean and Kantian origins (Dean et al., 2005). The fundamental themes of



critical realism have been broadened partly by one realist, Bob Jessop, through an elaboration of the three levels of the world, originally defined by Bhaskar. The real represents generative structures and causal mechanisms which then are demonstrated through actual events, before being experienced, observed and measured at an empirical level (Jessop, 2005). This study aimed to explore the different layers of reality with the phenomenon of falls as the central theme. Critical realism enriched the foundations of the study by examining areas of resonance and dissonance in the realities of patients and staff on the two wards, and how these realities were influenced by mechanisms often beyond their control. The study needed to 'unpack' the complexities of personal and professional relationships between the people immediately involved in a hospital-based fall, as well as highlighting controlling factors that resided in the background yet had an important impact on the structure of reality (ontology) and generation of knowledge (epistemology).

#### **3.2.4.2 Dialectical Critical Realism**

Critical realism is fundamentally concerned with the nature and possibility of human freedom (Dean et al., 2005). In dialectical critical realism, Bhaskar developed his theories of the status of change, detachment and human autonomy. Central to this development is the ontological importance of absence. He argues that the universal goal of the attainment of freedom, inherent in all humans, requires an understanding of the social and natural conditions in which humans live (Bhaskar, 1993). Critical to this is the relationship between freedom and the interconnectedness of things in the world. Freedom was a fundamental concept for this study as the aims of the research encompassed the need to explore personal experiences, the interplay of power, and factors that both influenced and governed the behaviour of lay and professional humans.

Dialectical critical realism develops earlier work by emphasising master-slave relations as being at the root of human *unfreedom*. An overwhelming feeling (or 'pulse') is said to exist within all individuals, acting as a force against unwanted constraints. In a society in which the free development of the individual provides the circumstances for the free development of the collective, humans can become absent of the absence of freedom (Dean et al., 2005). One aspect of this study was to determine the extent to which participants were free within their own understandings of their practices and experiences, for example, patients providing insights into how they interpreted falls events and providing staff with

opportunities to discuss their relationship with patients, particularly in terms of their role as providers of rehabilitation. Equally, the study attempted to unearth any factors that constrained or oppressed the promotion of freedom, such as barriers to patient-centred care and empowerment.

Critical realism acknowledges the impact of inter-related forces and oppressive structures on the achievement of freedom. This study attempted to understand the nature and outcome of a range of realities, including the beliefs, values, attitudes and experiences of patients and staff. This study provided patients and staff with an opportunity to explore their own realities, and how these realities were influenced by each other and other external mechanisms. Transformation was a key theme for the research as participants were encouraged to align themselves to a primary purpose of mutual understanding and a collective movement towards improving their experiences of health.

Humans are seen to be the cause of, and the solution to, a world constructed of oppressive structures (Dean et al., 2005). No particular social process is responsible for the denial of our true natures; it is ourselves with our own fundamental human flaws that regard such structures as establishing our social life. By developing our awareness of freedom, love, creativity, and intelligent energy, we can transcend the constraints of a demi-reality (half-world) that prevents us from being free, and transform the oppressive structures that we have created (Bhaskar, 2000).

Human freedom is fundamental to critical realism and can be developed through understanding the nature of human powers (Dean et al., 2005). Critical realism recognises the role of necessary constraints in the promotion of freedom, yet false beliefs can serve as a barrier to the enjoyment of such freedom. This is a consequence of apparent discrepancies between the three levels of the real, actual and the empirical in terms of a lack of clear understanding between the latter level and the other two. The complexity of nature and society can not entirely be understood through the available means of events or experience, and inevitably, the distance between the real and the empirical gives rise to false beliefs. Therefore, critical realism distinguishes between true and false beliefs, and considers the latter ideology with particular reference to capitalist societies (Dean et al., 2005). With respect to this study, an aim of discussing falls incidents with patients and staff was to highlight how the beliefs and attitudes of participants were situated within the context of a rehabilitation ward environment. This was not strictly a 'capitalist society' as referred to

in realism literature, but rather the ward framed the micro-societal basis for the convergence of realities in which participants' beliefs existed.

The relationship between ethics and universalism has created debate among realists. Bhaskar proposed that human autonomy and moral judgments share an inherent connection, whereas realist Andrew Collier believes universal freedom is unrealisable, and so emancipation, bounded with freedom, must find roots in socio-historical conditions rather than being indiscriminately affirmed (Collier, 1998). Collier's thinking reinforced the need to explore mechanisms external of the patients and staff. For example, the relationship between the participants' experiences of falls and falling had to be considered in respect of contextual issues, such as the ward ethos of being providers of rehabilitation as well as in relation to contemporary healthcare policy.

Critical realism can develop people's understanding of the complex powers that exist in nature and society, thus enabling humans to differentiate between constraints that are necessary, and those which are not. This aim of critical realism, proposed by Bhaskar in response to the limitations of positivist schools of thought, highlights the potential compatibility between fact and value.

### ***3.3 Methodological framework***

The methodological framework that underpinned this study is known as action research. Action research is not exclusive to either quantitative or qualitative methodology but rather is viewed as a framework for enquiry (Spalding, 2009). Action research is largely focused on the development of practice and knowledge through the implementation of change (Spalding, 2009; Dempsey, 2008; Tolson et al., 2006). Kurt Lewin's work from the 1940s on the use of social science to improve working conditions is commonly recognised with introducing the term 'action research' (Hart and Bond, 1995). His work demonstrated the cyclical nature of action research, whereby a study goes through problem identification, planning, action and evaluation stages - which are all inextricably linked - before spiralling into a second or third phase of enquiry (Khanlou and Peter, 2005; Waterman et al., 2001). This model has been modified over the years by authors such as Carr and Kemmis (1986) and Hart and Bond (1995) although the cyclical process is still at the core of this approach.

It has been used extensively in education settings to improve teaching strategies and professional practice, though the application of action research in healthcare environments has been less widespread (Williamson and Prosser, 2002). Action research has been described by many authors (Day et al., 2009; Trondsen and Sandaunet, 2009; Portillo, 2008) who argue that it is an effective means of developing healthcare practice, improving service provision, and promoting both professional and organisational learning (Zuber-Skerritt and Perry, 2002; Williamson and Prosser, 2002; Waterman et al., 2001). There has been a lack of consensus regarding a formal definition of action research, although it has been recognised as a means of describing, interpreting and explaining social situations as well as implementing interventions aimed at change and improvement (Waterman et al., 2001; Carr and Kemmis, 1996). Action research is a dynamic, informative and empowering process that uses a cyclical framework to involve stakeholders (e.g. researchers and participants) throughout the research process, as illustrated in Figure 3.3:

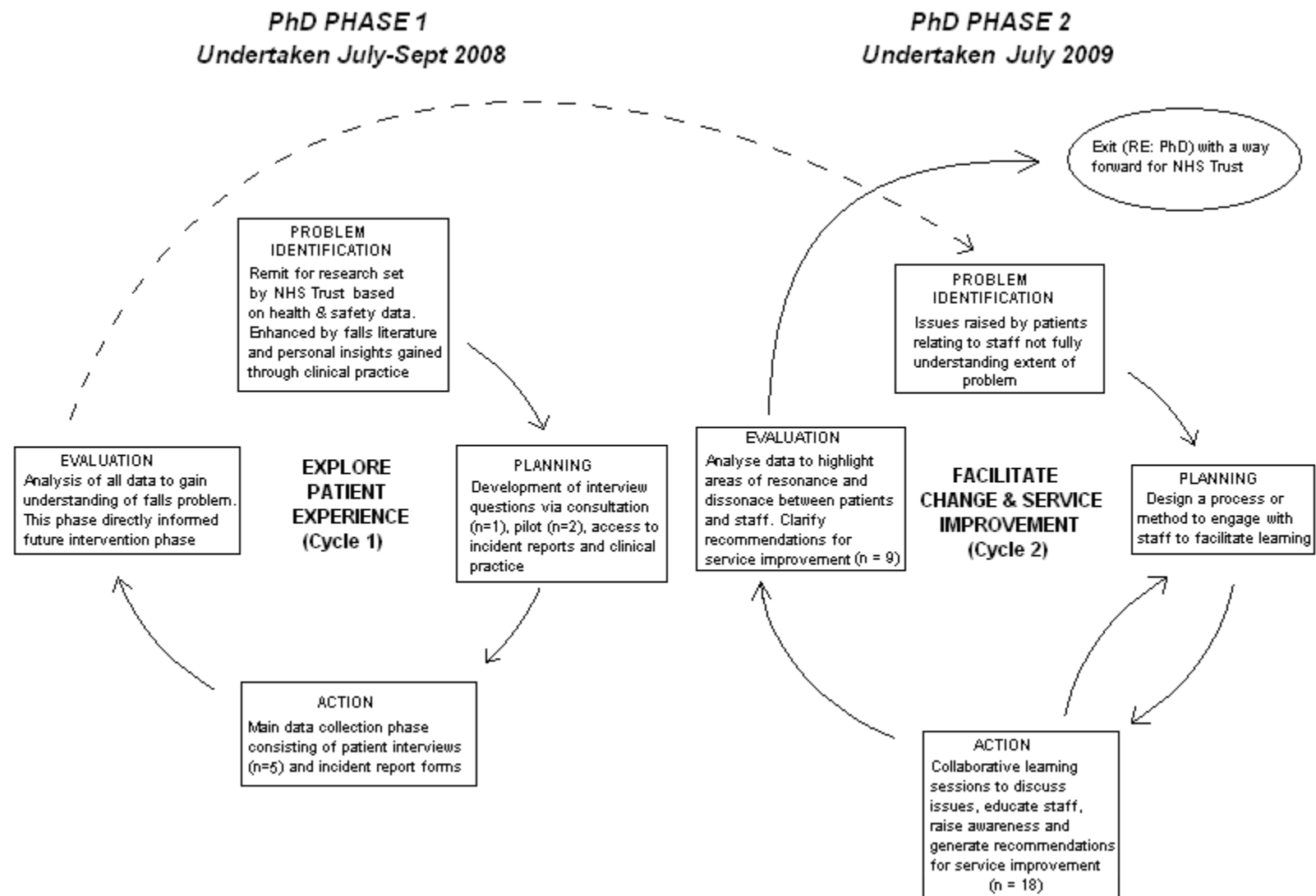


Figure 3.3. Cyclical design of the study

### **3.3.1 Contemporary issues - changing practices**

Kemmis (2009) described philosophical aspects of action research in terms of how it can change practitioners' practises, their understandings of their practises, and how the conditions in which they practise are related to others. These three factors are interrelated as there is a constant flow of change between them, with one influencing the other and so on. Kemmis believes that action research is a critical and self-critical process that enables transformations to occur in what practitioners say, do, and how they relate to others. Action research is integral to the development of changes; as Kemmis states, it is: "a practice-changing practice" (Kemmis, 2009, pp.464).

Three types of action research were described by Kemmis (2009). The first, known as 'technical action research', aims to improve outcomes by changing the participant-researcher's own practice. With this type of action research there is little acknowledgement of how one's own practice relates to others who might also be involved, as the focus is directed inwards so as to effect changes at the level of a known outcome. In essence, this is how a multidisciplinary team traditionally operates - independent practitioners working towards better patient care (Sheehan et al., 2007; Reilly, 2001; Sorrell-Jones, 1997). The rehabilitation teams on both wards epitomised this method of working.

Another type of action research identified by Kemmis is known as 'critical action research' (Kemmis, 2009). This describes an approach to research with far greater mutuality between participants. For example, research is undertaken in a collaborative manner, with participants sharing ideas and working cooperatively. Changes are created within and across the collective involvement of all participants. Critical action research epitomises the characteristics of a transdisciplinary team, whereby practitioners are unified through an integrated approach to patient care (Sheehan et al., 2007); responsibilities are shared and professional boundaries are blurred (Gibb et al., 2002; Reilly, 2001). This was the opposite of how ward staff operated and would have required a radical change implemented within a short space of time. Therefore, a different type of action research was used in this study, known as 'practical action research'. This is situated between the two previous forms of action research as it has elements of self-direction, in terms of participants understanding their own practice and how it relates towards particular outcomes, as well as considering others involved in the research as equal contributors (Kemmis, 2009).

This third style of action research accurately describes the format underpinning this study as it was both the process of change and the outcomes as they related to patients' experiences and service improvements that were explored. For example, staff were encouraged to not only discuss issues openly with other members of the team but to also consider the experiences of patients and aspects of falls incidents. Improvements to practises occurred from this interaction, and it was an appropriate means of facilitating changes without being too ambitious or unrealistic e.g. by expecting staff to make a dramatic shift in their professional values and behaviours. This style of action research essentially demonstrates the composition and functioning of an interdisciplinary team (McCallin, 2001; Reilly, 2001).

### ***3.3.2 Theory in action research***

Throughout the development of action research as a methodology has been the emphasis of integrating both theory and practice. There has been debate in action research literature regarding what is meant by theory and how theory is integrated into the research process. Behind every act is an intention to achieve a particular outcome, and this intention is motivated by knowledge, understanding and theory, regardless of formality (Dick et al., 2009). If an outcome is not fulfilled then this can create issues in need of explanation. Theory is a broad concept that enables people to make sense of their actions and consequent outcomes.

Grounded theory has been used within action research as a means of guiding theory development. Despite this combined approach being applied in the literature a criticism of grounded theory is that it can be difficult to incorporate participation (Glaser, 2003). Using more flexible processes than those commonly used in grounded theory, action research can generate theory through a gradual, evolutionary development, as a study progresses; theory can naturally occur as action researchers become involved in practical situations (Dick et al., 2009). Evaluating research procedures (e.g. through reflective practices) can lead to a clarification of understanding that will inform both the particular issue under investigation as well as the wider dynamics of action research.

Generation of theory was important for this study as it was used to facilitate the development of the implicit understandings of research participants. For example, the

personal experiences (theory) of patients and staff underwent a process of becoming more explicit and therefore more readily available to be changed through action. In this way, participants naturally assumed a role that was more engaged with the research process, and thus moved closer towards becoming co-researchers (Dick et al., 2009). For example, the responses given by patients directly informed the basis of staff involvement, such as highlighting the need to discuss theory (i.e. their experiences of falling and hospital-based rehabilitation) with staff in the learning groups.

### ***3.3.3 Action research and reflective practices***

A critical aspect of action research is the process of reflection whereby the researcher and participants engage in an interpretative review of the findings and consider future implications of their experiences (Bjorn and Boulus, 2011). The aim of engaging in reflective activities is to explore alternative solutions to situations that could not be previously solved by using experience and prior knowledge alone.

Reflection can relate to the object of a study as well as the method used for studying the object. Therefore, reflective practices can encompass an evaluation of both action itself and the assumptions, thoughts and beliefs underpinning action. This can create new insights into the research process and act as a means of self-development for the researcher and participants. Through reflection, changes can occur leading to improvements at a practical level, offering solutions to complex situations. All stakeholders can be challenged to examine their roles and identities, which is an important part of reflection.

It has been reported that a researcher can undergo a transformation when conducting action research if they are encouraged, by others or through their own practices, to embrace the challenges created by empirical uncertainties and to use these experiences as a catalyst to improve their understanding of phenomenon (Bjorn and Boulus, 2011). Reflective thinking can enable researchers to use uncertainties in a positive, constructive manner rather than accepting (or ignoring) them as extraneous factors of the research process. Reflecting on such aspects requires the conscientious questioning of assumptions, feelings, beliefs and actions followed by an exploration of insights gained through experience which serve to support or dispute proposed beliefs.



Reflection can be a valuable mechanism for evaluating the quality of action research, and can lead to greater awareness of the problem and action for interventions (Dampier, 2009). Open communication and working in partnership with stakeholders can enhance the effectiveness of transforming individual and group reflection into practice.

In this study, reflection was used in different ways to enhance participant learning, to reinforce the development of the two cycles, and to provide closure to the study. Patients were asked to explore the circumstances surrounding their experiences of falling by focusing on a range of issues developed through falls literature and input gained through a patient consultation and pilot phase. The summation of these activities facilitated the evolution of a second cycle of enquiry, with the aim of raising staff awareness of clinical matters (e.g. falls literature, definitions of rehabilitation) and patients' experiences. Group sessions were held with staff that acted as a forum for professional debate and reflection, and to build a link between the issues raised by patients and actions to be taken by ward staff for service improvement.

Towards the end of the study, feedback sessions were held with ward staff to disseminate findings, and to discuss future ideas as to how staff could continue improving their clinical practice. These sessions enabled staff to reflect upon their participation and to map out actions to be taken in the future.

#### ***3.3.4 Dissemination in action research***

It has been proposed that action research studies have special needs and obligations in dissemination when compared to mainstream behavioural scientists (Sommer, 2009). The blending of boundaries between research theory and practice requires a more innovative approach that can rarely be satisfied using a traditional scholarly model. Findings should be presented in a variety of formats so as to reach a wider audience; relevant readership can consist of academic colleagues, practitioners, the public and professional/associate organisations. This can lead to a more comprehensive, inclusive movement towards improving action research as a methodological framework.

One of the fundamental aims of action research is to advance knowledge (Sommer, 2009); redefining the role of the researcher is integral to this. Rather than a sole researcher

“owning” a study, data are invariably generated through collaboration with research participants within a particular setting. Therefore, group participation has a strong influence on the direction of a study, and so the dissemination of findings should reflect the width and depth of data. A mainstream journal article might not be sufficient to achieve this and so alternative options should be considered.

Dissemination is also a way of ensuring participants are provided with useful strategies to continue improving their situation (Sommer, 2009). Participants might not have access to certain academic or research journals yet still require feedback regarding their involvement in a study. Co-ownership of findings can become more formalised by publishing findings yet this can be a new experience for lay participants. Therefore, the method(s) of dissemination should acknowledge their involvement and be used as a further means of enhancing co-authorship and communication. For example, participants could be used to refine the language and terminology presented in findings so as to make dissemination more audience-friendly (Sommer, 2009).

The findings of the study were disseminated to participants in the form of face-to-face feedback with patients, presentations to staff in feedback evaluation sessions, and meetings with NHS managers. The process of dissemination had to be flexible to consider the regularity of patient turnover rates (i.e. admission and discharge of patients to/from the ward) as well as the variance in staff working patterns. Some examples included patients being updated with findings from cycle one as soon as possible (i.e. before they were discharged), and ward staff were offered the opportunity to attend any of the feedback sessions, held at different times and days. Findings of the study were also disseminated at a university conference to reach a wider clinical and academic audience.

### **3.3.5 Summary**

In summary, action research was the theoretical framework that underpinned this study, which firstly sought to understand the problem of patients falling in hospital, and secondly, to engage in a process of change. This study followed the guiding principles advocated by action research literature (Waterman et al., 2001; Hart and Bond, 1995), particularly the use of a cyclical and evolving approach to research so as to promote interprofessional collaboration and self-transformation between participants (Kemmis, 2009).

### **3.4 Research design: Cycle one**

The aim of cycle one was to gain an understanding of the patients' experiences. It utilised a variety of approaches to achieve this aim and underwent a process of enquiry that encompassed four key stages: problem identification, planning, action and evaluation (Khanlou and Peter, 2005; Waterman et al., 2001; Hart and Bond, 1995). This generated data that informed a second research cycle.

#### **3.4.1 Problem identification**

The first phase of cycle one was concerned with identifying the problem, as illustrated in Figure 3.4.1:

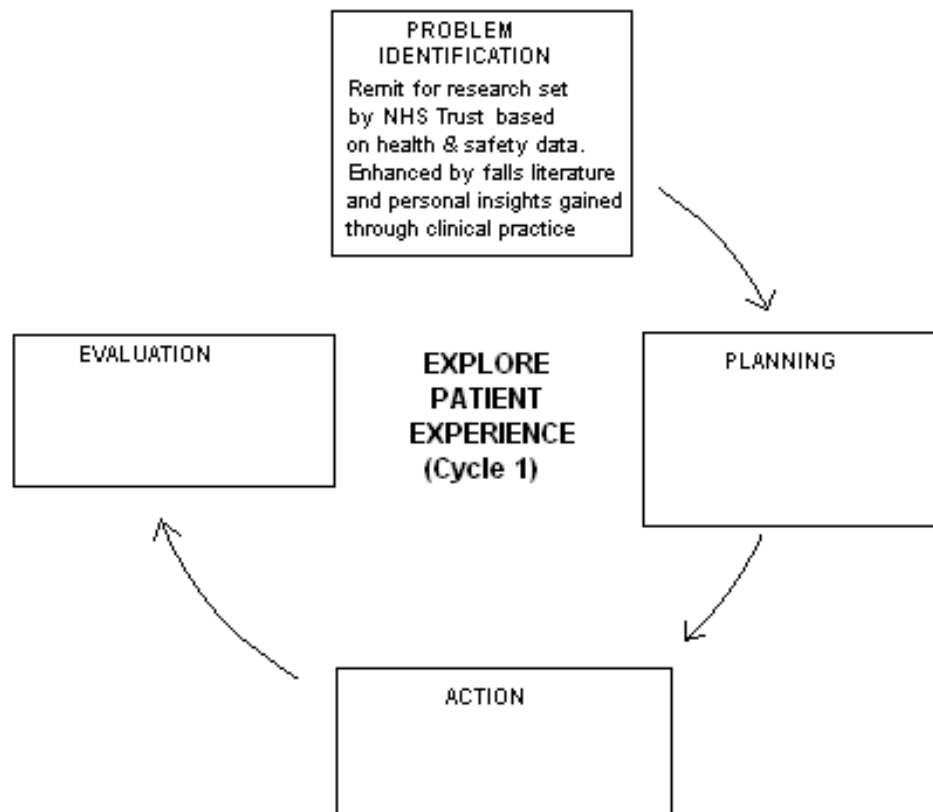


Figure 3.4.1. Cycle One: Problem Identification phase

There were three important factors that substantiated the identification of the falls problem. First of all, the falls statistics produced by the Trust's Health and Safety Department had

initially identified the problem of older patients falling during their time in hospital. Statistical data provided quantitative support for the remit of the study. This showed that the two rehabilitation wards had experienced a high number of falls and fallers. Data was comparable between the two wards with similarities in total number of falls, reasons for falling, injuries sustained and actions taken.

The second component of the planning phase was a comprehensive review of the literature. This enabled the study to have a stronger theoretical basis and supported the research design and methodological framework. Key themes that emerged from the literature included assessing for falls risk factors, methods of prevention, and understanding patients' experiences of falling. These highlighted the causes (mechanisms) and consequences of falling, as well as the common strategies employed to address falls. Few studies had explored the short- and long-term subjective experiences of patients who had fallen whilst in hospital.

The second factor that was integral to identifying the problem were the insights gained by working as a novice physiotherapist on the two wards. Working in a part-time clinical capacity meant that I could gain direct access to the people and environment that were immediately affected by the problem - a position not always available to full-time researchers. There is a professional expectation that any physiotherapist working in elderly rehabilitation should be aware of falls risks and prevention strategies (CSP, 2001). The nature of the research heightened my awareness of fall-related issues as the preceding factors of a fall could be witnessed first-hand. A better appreciation of the problem was also obtained from informal conversations with patients in their physiotherapy treatment sessions. These clinical insights formed part of a preliminary means of setting the context and direction of the study.

### ***3.4.2 Planning***

The continued planning of the research in cycle one was comprised of several key elements, as illustrated in Figure 3.4.2:

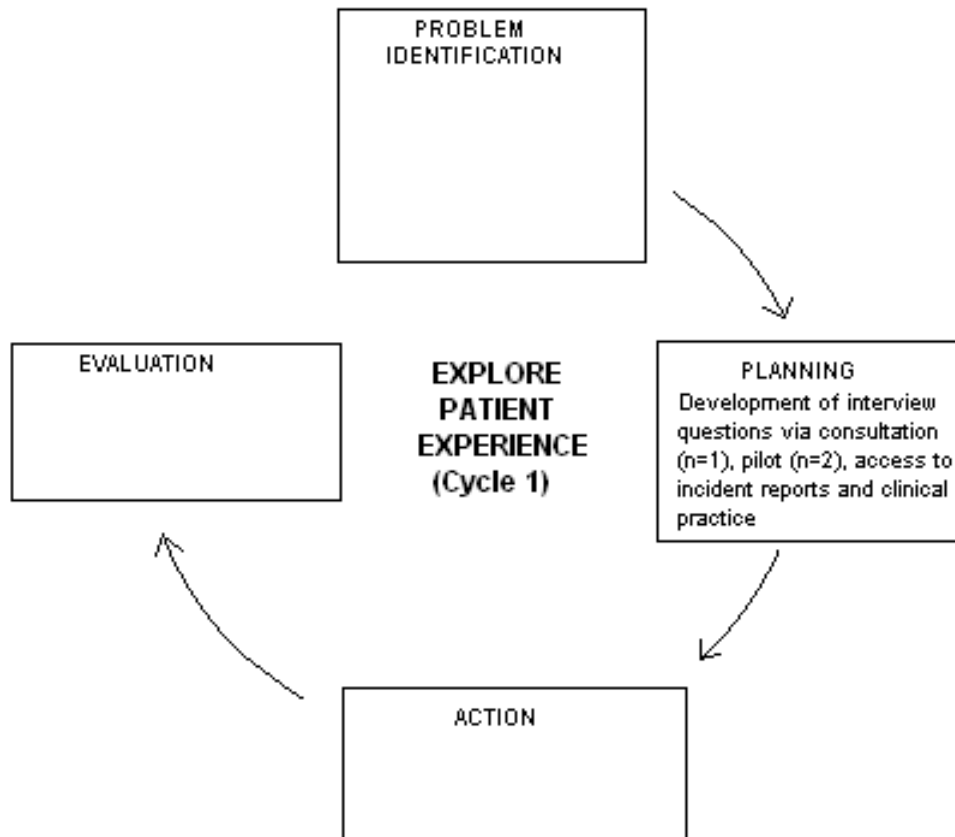


Figure 3.4.2. Cycle One: Planning phase

The on-going development of the research was aided by a review of the Trust's incident report (IR1) forms. These documented the basic facts surrounding falls and fall-related accidents on the two rehabilitation wards, and contained primarily quantitative data e.g. time, day and location of fall, what injuries were sustained and their consequent treatment including medical scans/procedures etc. There was some space for further detail ('free text') in each of the different sections on the form but these tended to be concise and medically-orientated in terms of the language and information used by the ward staff. However, the IR1 forms did serve a significant purpose during this planning stage as they added further support to the on-going review of falls literature and the clinical insights gained from working as a physiotherapist. It was clear that specific areas relating to the falls problem were beginning to emerge from the data e.g. demographic information on fallers, injurious versus non-injurious falls, changes to risk strategies, the involvement of staff both during and after a fall (including the treatment of injuries and manual handling techniques) etc. A further analysis of these factors suggested that each could be related to several major themes

frequently occurring in falls research, that is, the mechanisms (causes), bio-psychosocial consequences and subjective experiences surrounding in-patient falls events.

It was important to provide structure to the emerging information so as to be able to generate an appropriate method of investigation for the future action stage. The findings from cycle one demonstrated that the chosen method of data collection in cycle two needed to encompass a primarily qualitative approach, with the potential to include some quantitative elements. For example, gathering data concerning the time, date and location of a fall was relatively straight-forward, and would simply require a 'tick-box' format. However, attempting to ascertain a deeper understanding of how patients defined a fall or how their fall had impacted on their daily life on the ward naturally required a more qualitative and open-ended means of investigation. Therefore, a set of questions were generated that formed the draft version (v.1) of a falls questionnaire to be used in the consultation phase (see Appendix 8 for a list of the questions used in this questionnaire).

One member of the public who had been a patient on one of the wards within the previous six months and had fallen was recruited for the consultation phase. The sole participant reviewed the questionnaire and was encouraged during a participant-researcher interview, performed in the participant's own home, to consider the physical, psychological and social issues relating to their personal experience of being in hospital for rehabilitation. Their feedback also identified areas in need of further exploration; for example, psychosocial issues, gaps within local services, and potential differences between patients' and therapists' views on what should constitute falls prevention (Ross et al., 2005).

The questionnaire was considered to be complete and authentic only after the informant's feedback was integrated into the document. Thematic and discourse analysis were used to process the information given by the participant, and key findings were used to modify the set of falls questions (v.2) to be used later in cycle one (see Appendix 9 for a list of the updated list of falls questions).

This consultation activity was very much in line with a national drive for promoting and supporting active public involvement in NHS, public health and social care research (Tarpey, 2006). The process of consultation has been described as "...an active partnership between the public and researchers in the research process, rather than the use of people

as the ‘subjects’ of research...” (Tarpey, 2006). The inclusion of a member of the public enriched the qualitative methodology of this study.

In order to test v.2 of the questions list, a pilot study was undertaken prior to the main data collection phase of cycle one. This modified the questions in such a manner so as to explore the themes that began to emerge from the consultation phase in greater detail - principally, the psychosocial aspects of falling. This pilot phase was a further example of the cyclical nature of the study as it demonstrated how one stage influenced and informed the following stage, and how both the design and the research questions were being continually developed within the context of the phenomenon under investigation.

The results of the pilot phase generated v.3 of the falls questions (see Appendix 10). It became clear that the use of a questionnaire was not an entirely appropriate method for collecting data from patients on the two wards. This was principally due to the patients not being as forthcoming with their initial responses as hoped; further prompting and additional questioning was frequently required in order to ascertain a more comprehensive answer. This resulted in a change in the study’s methods and methodology. In particular, the pilot phase became more openly conversational rather than a straight-forward question and answer session. Therefore, the falls questionnaire developed into semi-structured interviews for the pilot and main data collection phases. A stronger emphasis on qualitative enquiry had been naturally created through the open discussion with the two patients in the pilot phase, as the quantitative data became less obvious from their responses. Identification of more subjective (e.g. psychosocial) aspects of the participants’ experiences of their fall added further support to the methodological changes occurring during this planning phase of cycle one.

### **3.4.3 Action**

The application of the falls questions in semi-structured interviews constituted the ‘Action’ stage of this cycle. Participants were asked a series of primarily open-ended questions, in which they were encouraged to talk freely about their hospital fall, as illustrated in Figure 3.4.3:

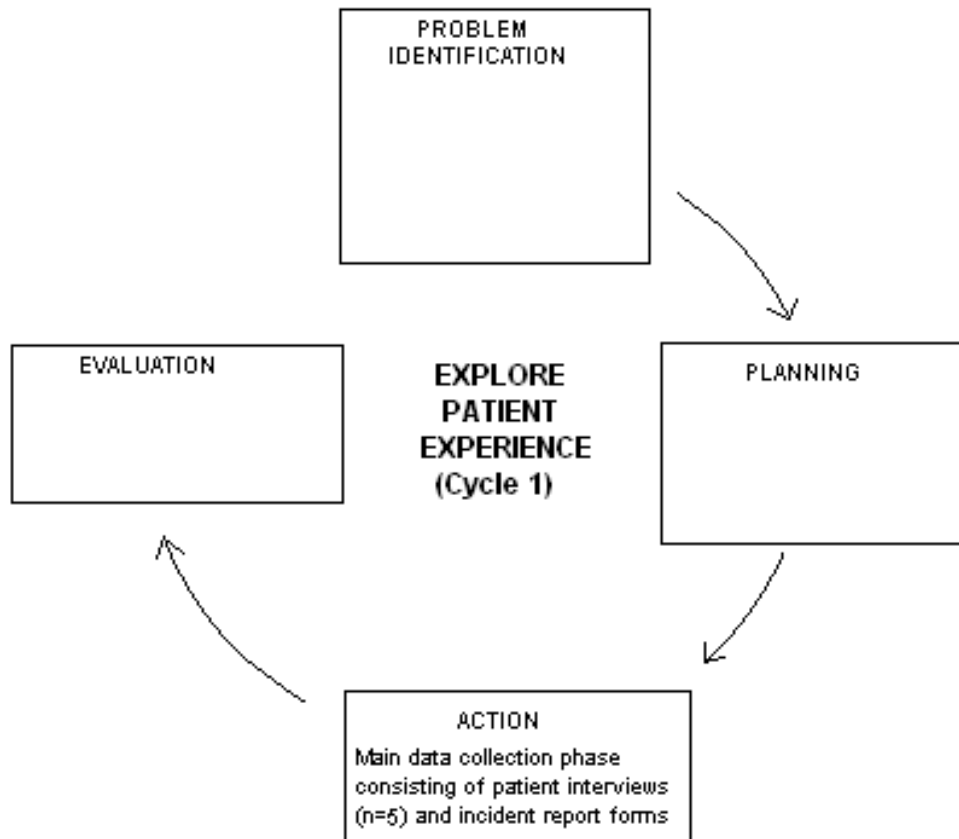


Figure 3.4.3. Cycle One: Action phase

A fundamental tenet of action research is the notion of democratic research practice (Waterman et al., 2001). Therefore, as many patients as possible from the two wards were considered potential participants, although the design of the research meant that certain patients could not be directly involved, primarily due to cognitive or communicative impairments. However, it was still important to gather data on every patient who had fallen during the research time so as to obtain a comprehensive, pragmatic and inclusive understanding of the problem. Therefore, as a secondary means of collecting data, every IR1 form during the data collection phase was obtained from the Trust's Health and Safety department. A number of factors surrounding each fall were identified from the quantitative and qualitative elements of these forms. For example, the IR1 forms documented the day, time and location of each fall, if any injuries were sustained, what treatment was given, if there were any known causes of the fall, and a brief summary of the aftermath (e.g. if the patient was hoisted back into a chair, or if the patient was advised to change their level of mobility etc.).



### 3.4.4 Evaluation

An 'Evaluation' phase immediately followed the action phase of cycle one, and generated the groundwork for a second cycle of inquiry, as shown in Figure 3.4.4:

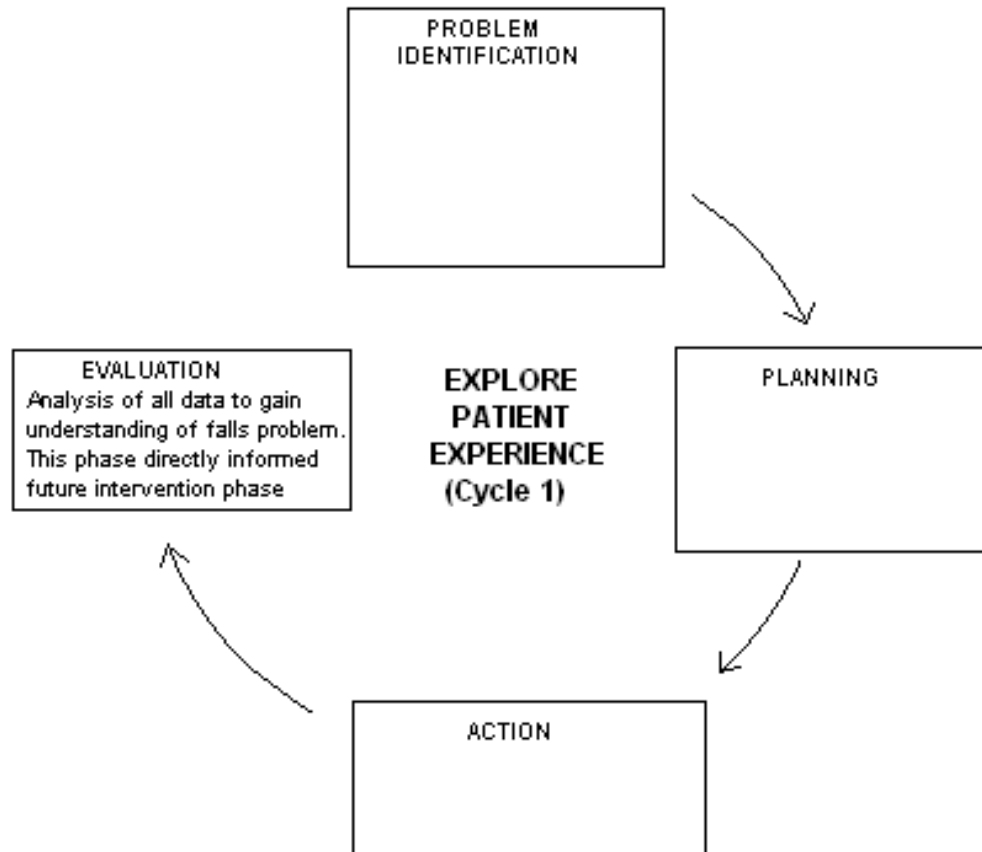


Figure 3.4.4. Cycle One: Evaluation phase

This data was largely qualitative, and therefore, required a systematic approach to data analysis (Greenhalgh and Taylor, 1997; Mays and Pope, 1995). By analysing the language and dialogue produced from the interviews and IR1 forms, insights were gained into the ways in which a fall affected patients and staff, both in the short-term (i.e. at the actual point of the fall, or the immediate aftermath) as well as implications in the longer-term (e.g. changes to discharge planning, rehabilitation status, nursing care etc.).

Despite the two sets of data originating from different sources (i.e. the patients in the interviews and staff from the incident reports), a comparison was important as both sources were integral to gaining a thorough understanding of the phenomenon. In fact, the most

prominent issues that emerged from cycle one were founded in this comparison i.e. changes within the relationship between patients and staff as well as differences in their perspectives regarding the mechanisms, consequences and overall experiences of a fall in hospital.

As a means of ensuring methodological authenticity findings were fed back to the Trust's Research and Development department so that senior management could decide how best to implement changes to service provision at an organisational level. Findings from cycle one were summarised in a report and submitted shortly after data analysis. This report provided a means of "closing the loop" to cycle one, and prepared a way forward for a second cycle of enquiry.

#### ***3.4.5 Methods of data collection***

The research was an exploratory study as it attempted to understand participants' personal experiences of falling. The qualitative nature of the study required a flexible data collection method to enable the attitudes and perspectives of patients to be adequately ascertained. The data collection method had to be responsive to the personal issues raised by patients, particularly considering the age group and health status of the participants. Semi-structured interviews were chosen as the research method for cycle one, and were used because the consultation and pilot phases demonstrated the need for a flexible research design (Robson, 2011; Bryman, 2008). These types of interviews are useful when the interviewer is closely involved with the research process (Robson, 2011). Certain information had to be obtained from the patients yet the interviews were adaptable enough to allow for modified lines of enquiry and enabling patients to elaborate on their responses (Bryman, 2008).

The data collected in cycle one were to be used as a multifaceted approach to change clinical practice and generate improvements in service provision, particularly in terms of falls prevention strategies. The patient interviews had to draw out the essence of patients' experiences of falling so as to identify key learning points to inform a second cycle of enquiry. The voices of patients had to be accurately and appropriately captured as they formed a fundamental aspect of finding a solution to the problem of falling in hospital. The use of semi-structured interviews acknowledged the dynamics of conversational exchange (Hannan, 2007).

A list of questions became a resource or 'interview guide' for directing purposeful conversations with patients (Bryman, 2008; Ruane, 2005). Semi-structured interviews enabled me to create rapport with participants, express interest in their experiences of falling, support their involvement, and ultimately, allow me to capture their stories (Hannan, 2007; Ruane, 2005). The definition of a fall (Lamb et al., 2005) and categories of the International Classification of Functioning, Disability and Health (WHO, 2003) provided additional information to be used as prompts to encourage participants to elaborate on their answers (Robson, 2011; Ruane, 2005).

There are other types of interviews commonly used in research other than the semi-structured format used in this study (Robson, 2011). The line of questioning had structure as there were issues and topics in need of further exploration as identified by the literature, insights gained from clinical practice, and feedback from the consultation phase. However, the interviews also had to encompass an element of flexibility so as to enable patients the opportunity to talk freely and openly about their experiences. Authenticity in the development of the data collection method was integral to the research design in that the study aimed to understand the complexities of participants' realities on the two rehabilitation wards. Structured interviews could have promoted a sense of rigidity to the study by being too focused on specific falls issues, whereas unstructured interviews would have been too open-ended and lacked focus. The data collection method had to encourage patients to express their experiences of falling without feeling restricted yet maintain a degree of focus on key issues highlighted by the literature and clinical insights.

Other research methods were excluded for a variety of reasons. For example, focus groups, questionnaires or surveys etc. would have been inappropriate given the fluctuations of health status and variance in communication and cognitive functioning of patients. Patients were regularly engaged with visiting relatives, home visits and therapy sessions, and so co-ordinating their participation had to consider potential barriers to recruitment and adherence. A key advantage of the interviews was that they were performed without inconveniencing patients, staff or relatives whilst being able to collect information-rich, qualitative data (Bryman, 2008).

The consultation and pilot phases helped to streamline the way in which the interviews were carried out, in terms of the questions asked (including common prompts), the location, and the duration of the interviewing process. These factors became standard during the main

data collection phase. For example, each interview was performed in a similar setting (i.e. a private team meeting room on each ward) and within a similar length of time (approx. 25-30 minutes). However, repeat fallers were only asked a selection of questions from the original list due to some of the questions requiring once-only responses. Other questions were asked in every interview as a way of gaining a progressive understanding of the mechanisms, consequences and experiences of the phenomenon.

#### **3.4.6 Sampling**

Cycle one comprised three key investigative stages: the patient consultation, the pilot, and the main data collection. Each stage involved different sample sizes albeit from the same (homogenous) sub-population. It was essential to involve a sample of the population that had directly experienced the phenomenon so that the research could gain a deeper understanding of the actual problem (Greenhalgh and Taylor, 1997). Their input was considered to provide a greater degree of authenticity to the study by ensuring that the direction and language of the data collection method was appropriate, acceptable and clear for similar patients to understand. Furthermore, their opinions generated a more pragmatic and context-specific (i.e. ward environment) research design, which is a key feature of this study.

Purposive sampling (Robson, 2011) was used to selectively identify potential informants for the consultation stage. These were all discharged patients and were selected through recommendations made by senior therapists currently working within the Trust. These therapists were advised to base their recommendations on the communicative and cognitive abilities of each patient so that they could read and discuss the draft falls questionnaire. The consultation activity was inclusive of all discharged patients, although there were two key characteristics that participants needed to have possessed. Firstly, potential participants must have had at least one fall during their time in hospital - thus ensuring that the information that they provided had a more conclusive degree of trustworthiness and credibility. Secondly, each participant had to provide informed consent to their involvement to demonstrate their understanding of the study and their active willingness to participate.

Other forms of sampling were not used as they were deemed not to be conducive to the over-arching aims of the study. For example, representative or 'naturalistic' sampling is

preferable when research is seeking to generalise about issues (Hannan, 2007). It can be difficult to use this approach due to the exploratory nature of qualitative research, in addition to gaining access to large numbers of participants required to generalise findings (Hannan, 2007). In particular for this study, the two wards did not have a substantive enough turnover to warrant representative sampling, nor was it an aim of the research to make statements applicable to all fallers in all hospital environments. Other probability sampling, such as random or stratified, were also not appropriate as the study needed to only recruit patients from the ward population who experienced a fall, as this was the phenomenon being studied.

#### ***3.4.7.1 Consultation phase: Inclusion criteria***

The criteria for being included in the consultation phase were kept to a minimum so as to encourage the highest number of potential participants as possible. Therefore, the criteria were:

- a patient discharged from one of the rehabilitation wards within the last six months
- a patient who had fallen during their time in hospital
- appropriate levels of cognition and communication so as to be able to understand the aims of the research and their degree of involvement

#### ***3.4.7.2 Consultation phase: recruitment***

At least four informants were originally intended to be recruited for the consultation phase, but only two positive responses were obtained out of a possible eight. From these two responses, one participant unfortunately died leaving only one informant available for interview. This participant was invited to participate via a postal letter clearly stating the purpose, design and requirements of the study. After being given two weeks to read the initial contact letter, the participant sent the consent form back before the consultation phase began (see Appendices 11 and 12 for a copy of the consent form and information sheet, and Appendix 13 for a flowchart detailing the consultation recruitment process).

#### **3.4.8.1 Pilot and main data collection: inclusion criteria**

The criteria for being included in the pilot and main data collection phases were kept to a minimum so as to encourage the highest number of potential participants as possible. Therefore, the criteria were:

- appropriate levels of cognition (see following section) and communication so as to be able to understand the aims of the research and their degree of involvement

#### **3.4.8.2 Pilot and main data collection: recruitment**

The identification and recruitment procedures for potential participants in the main data collection phase were identical to the pilot phase. One of the advantages of working as a physiotherapist on the wards was the generation of initial insights into the potential eligibility of patients being able to participate in the study. At the beginning of the study, there was a large portion of patients who were eligible to participate; once underway, newly admitted patients were also invited to join the study, provided they met the inclusion criteria. Similar to the consultation, the pilot and data collection phases had very few criteria for inclusion so as to involve as many patients as possible.

Participants had to be current in-patients on the two elderly rehabilitation wards and they had to provide informed consent. It was easier to obtain a more quantitative measurement of each potential participant's level of cognition as their medical records were more accessible on the wards where their Mini Mental State Examination (MMSE) score was documented. A cut-off score of 20 (out of 30) was chosen to determine if the patient had appropriate levels of understanding required for the study (Jensen et al., 2003).

Preliminary face-to-face contacts with potential participants, made through working as a clinician as well as liaising with nursing and therapy staff, determined if patients had suitable levels of communication. All potential participants, following this screening, were invited to participate in the study and were directly given consent forms and information sheets (see Appendices 14 and 15). Most patients agreed to participate, yet those reluctant to be involved either simply did not want to or believed that they wouldn't fall whilst being in hospital, therefore, their participation would be a waste of time. During the four-month study

period, 24 patients were recruited from both rehabilitation wards; 2 were recruited for the pilot; 5 for the main data collection phase, and 2 of these participants sustained a second fall.

In order to differentiate between participants who had fallen and who not fallen, a system was devised whereby all participants were considered to be “dormant” throughout the duration of the study. Only when they experienced a fall did they become “active”, and only “active” participants in the pilot and main data collection phases were interviewed.

Classifying participants as being either “dormant” or “active” had several logistical advantages. First of all, a “dormant” participant had already been given the invitation letter, information sheet and consent form. If this patient then fell, they would not have needed to wait the allocated time (one week) until they had an opportunity to read these documents and consent to participate in the study; patients were aware of being interviewed soon after they fell.

Secondly, as the one week allocated reading and consent period was completed, the information provided by the participant was considered to be more reliable as they did not need to recall their falls experience from a week earlier - their fall was still relatively clear in their mind. It was acknowledged that within a few days of either the pilot or main data collection phases ending, a newly admitted patient could have experienced a fall. However, the fact that they were not involved in the study for as long as most other patients did not demean or detract any degree of trustworthiness from their participation or feedback. The aim of cycle one was to explore the problem of hospital-based falls on these two rehabilitation wards. Therefore, any fall(s) experienced by the participants during the research period had to be investigated. [See Appendix 16 for a flowchart detailing the recruitment process for the pilot and main data collection phases.]

#### **3.4.9 Methods of data analysis**

Analysis in action research is integral to reflection and future planning stages as it focuses more on identifying factors that can be used to facilitate change rather than solely interpreting findings (Hannan, 2007). Therefore, the methods of data analysis were used in accordance with this purpose by highlighting fundamental issues, expressed through the

shared experiences of patients, that would be used later, in cycle two, as a platform for service development. The data formed the basis of a movement towards effecting change by exploring the realities of fallers. Only by providing a trustworthy and accurate account of their experiences could the data be effectively used to generate meaningful changes in cycle two.

The analysis of the data produced in this study focused on the qualitative responses given to the falls questions and the descriptive language used in the IR1 forms. The quantitative information, such as the recording of the day, time, location and degree of injury on the IR1 forms, was analysed using descriptive analysis.

Constant comparative analysis is a strategy commonly used in qualitative research as it involves comparing items of data with one another so as to develop conceptualisations of how data are related within the context in which they are experienced (Thorne, 2000). This is particularly congruent with the dialectical nature of this study in terms of exploring the sets of relationships that comprise the different realities of falls and falling. The analysis of the interviews also aimed to draw out themes shared between patients to strengthen the data to inform the basis of cycle two. However, there are other forms of data analysis used in qualitative research. A phenomenological approach seeks to discover underlying structures and the essence of experience through individual cases (Thorne, 2000). To achieve this, the analyst typically avoids cross comparisons and orientates analysis towards depth and detail. This was used when analysing the patient's responses but not to the same degree as would be expected from a classic phenomenological study.

Ethnographic research focuses on aspects of human experience as beliefs, kinship patterns and ways of living (Thorne, 2000). Analysing data from an ethnographic tradition uses an iterative process in which the analyst typically experiences cultural behaviour with the participants themselves, detecting and interpreting thematic categories from data so as to discover inconsistencies, contradictions, and to generate conclusions regarding that experienced behaviour. This style of analysis was not appropriate for cycle one of this study as falling was a unique experience of the patients only. However, it was of more relevance for cycle two due to the collaborative nature of working with staff to facilitate changes.

One other method for analysing data that could have been used in this study, but alternative methods were chosen instead, is known as narrative analysis. This can be used to discover



how human experience is influenced and understood through linguistic data. It attempts to analyse the meaning contained within the subjective representations of experiences as they are articulated in communication (Thorne, 2000). Rather than analysing the extent to which the patients' stories provided insights into their experiences of falling, discourse analysis was a preferred method that is in contrast to narrative analysis by focusing more on the ways in which patients communicated their experiences so as to uncover societal influences underlying their beliefs, values and behaviours. This supported this study by examining the critical relationships between the internal, subjective realities of falling, and the external mechanisms that shaped and transformed experiences and outcomes.

The patient consultation, pilot phase and the IR1 forms all shared a common purpose - to enhance the authenticity, acceptance and trustworthiness of the main data collection phase of cycle one i.e. the development of the falls questionnaire (v.1) that evolved into the semi-structured interview questions (v.2. and v.3). The understanding of the phenomenon came from the analysis of the characteristics, regularities, meanings and reflections of the language used by the participants (Tesch, 1990). Their "voices" influenced the structure of the falls questions as well as the cyclical direction of the research (e.g. the need for a second cycle to involve members of staff to address the issues generated from cycle one).

Thematic analysis was the method used to identify, analyse and describe themes and patterns of living and/or behaviour from cycle one data (Aronson, 1994). This approach has a degree of theoretical flexibility that enables it to be a useful research tool, which can provide a detailed explanation of data (Braun and Clarke, 2006). Thematic analysis was used to group ("code") patterns in the data relating to pre-determined themes - principally, the mechanisms, consequences and experiences of falls. Comments and reflections were added to these patterns so as to identify phrases, themes, similarities and differences, particularly between each participant. Throughout the evolving nature of the research, these consistencies in the data established a set of generalisations that were connected to the literature in the form of theories (Miles and Huberman, 1994). This was required to build a valid argument for their influence over other elements of the study (Aronson, 1994).

The second analytical approach used in this study was discourse analysis, also known as conversational analysis (Robson, 2011). It has been suggested that the study of language can lead to an understanding of social functioning (Robson, 2011); in this case, the

phenomenon of in-patient falls. It is not only the content of the discourse, but also the intent (i.e. the styles and strategies of those creating the language) which is of significance.

The use of discourse analysis in this study was to “go beyond” the themes and opinions expressed in the semi-structured interviews and incident forms. By using both discourse and thematic analysis, the data was essentially analysed from its literal context, that is, measuring the genuine views of a participant, as well as the discursive meaning - understanding how each participant made sense of the phenomenon (Marshall, 1994). For example, the use of thematic analysis drew themes from the answers given by the patients in the interviews; discourse analysis placed these themes into a contextual understanding of the problem, so that insights could be ascertained regarding how these falls affected the patients in a deeper way than their words had initially suggested. Discourse analysis was particularly useful when the data from the IR1 forms were reviewed as staff tended not to make full use of the free-text space available on the forms. Therefore, it was initially difficult to identify themes from the IR1 data, although a more comprehensive evaluation of the language used by the staff generated a deeper understanding of the falls event.

#### ***3.4.10 Trustworthiness and rigour***

Qualitative research endeavours to ensure trustworthiness and rigour by using a systematic and selective approach to research design, data collection and analysis, and presentation of findings (Mays and Pope, 1995). It is essential to provide a clear explanation of the phenomenon being studied, as well as presenting a structured account of the research process so that the study could be reproduced, with potentially similar conclusions and truths being obtained. This is particularly important when explaining any divergence from predicted ideas and theories (Mays and Pope, 1995). For example, what was initially expected from cycle one was the need to implement some form of physical intervention in cycle two; however, the information given by the patients shifted the focus away from this expectation and created a more educational and discursive approach to addressing the problem.

In quantitative research, the use of random statistical sampling is typically used to increase the external validity or generalisability of studies (Greenhalgh and Taylor, 1997). However, the aim of cycle one meant that statistical representativeness was not necessary for this

study; the selective recruitment of an “information rich” population with personal experience of the phenomenon was more appropriate in addressing the research aims (Barbour, 2001; Mays and Pope, 1995).

In an effort to maintain the integrity and quality control of such data, as well as ensuring a good degree of rigour, it was vital that a systematic and self-conscious approach was taken towards analysing the data (Mays and Pope, 2000; Greenhalgh and Taylor, 1997; Mays and Pope, 1995). It was important to recognise the relationship between a rigorous approach to data analysis and dependability in findings (Rolfe, 2006). Due to the nature of this study in terms of the availability of resources and a research team, no independent assessment or auditing of the data occurred. However, verbatim quotes were used to provide strength and credibility to conclusions drawn from the data (Greenhalgh and Taylor, 1997); findings were discussed in-depth with academic supervisors; and finally, relevant comments and significant issues were consistently fed back to each participant during and after each interview to reduce misinterpretation (Barbour, 2001; Mays and Pope, 2000). This created a continuous analysis of the data, which modified and refined the developing concepts (Fossey et al., 2002; Mays and Pope, 2000).

These three methods also generated a more comprehensible and trustworthy account of participants’ experiences. Each element of the research needed to be described in detail and presented clearly within a qualitative paradigm (Barbour, 2001). This included the choice of data collection method, the analytical framework used to manage the data, and the interpretation of the findings with accompanying evidence - from both the literature and directly from the data obtained. As long as each of these activities remained comprehensible, the study could confidently justify its flexible design, and could maintain scientific integrity in an iterative and progressive manner (Rolfe, 2006; Greenhalgh and Taylor, 1997).

#### **3.4.11 Ethical considerations**

Following approval from the School Research Ethics Sub-Committee and the NHS research site’s own Research Management and Governance Committee, the proposal was submitted through the NHS IRAS system and finally granted approval by a local ethics committee (see

Appendix 17 for copy of approval letter). It was necessary for the project to go through these procedures as the research involved NHS patients and premises.

The application for ethical approval for cycle one encompassed the following three stages: former-patient consultation, pilot, and main data collection phase. Participants in all three stages were classed as vulnerable adults. This was due to their varying degrees of old age, mental health problems, disability, learning difficulties, physical frailty, chronic illness, sensory impairments, challenging behaviour, drug/alcohol problems, social or emotional problems, poverty or homelessness (Law Commission Report 231, 1995). Of fundamental importance to this action research study was the consideration of participants' best interests and welfare. This meant adhering to a philosophy of care that addressed social injustice, equity and person-centred care (Day et al., 2009).

In cycle one, participants volunteered to disclose personal information regarding their own experience of falls on the ward. They were asked to voice opinions that contained sensitive information, such as views on ward staff, the hospital environment, falls management, and the adherence to manual handling policy etc. It was imperative that their identities remained anonymous and the information was treated with the utmost of confidentiality (DH, 2005). Furthermore, it was vital that appropriate steps were taken to prevent further risk of harm and to protect these 'vulnerable adults' by reinforcing the right to withdraw; the opportunity to access emotional support was offered; interviews could even have been stopped and/or postponed.

All participants were required to provide written consent for their involvement in this study, and this was only accepted if they demonstrated an understanding of the nature and design of the study. Evidence for this was the completion of a written consent form attached to the information sheet as well as documenting their consent at each face-to-face contact. Participants were informed that all data would be retained for future use (e.g. presenting findings to participants in cycle two and documenting results in the thesis etc.), even in the event of a participant later losing mental capacity. Data would not reveal the identity of the participant, whether they lost capacity or not.

#### **3.4.11.1 Consultation phase**

The fundamental difference between the consultation phase and the pilot phase and main data collection was the environment in which the research took place. The whole recruitment process was fundamentally different when contacting patients that had been discharged back home. They were not as readily accessible as patients on the wards so therefore the approach to inviting former-patients to participate was more lengthy, less reliable (e.g. knowing for sure if people received the information; relying on the postal service to deliver the documents; if people required help from relatives or carers to read their mail etc.) and in some ways encroached more on their personal lives as they were being contacted at their own home. However, the former-patient living in the community was naturally placed into an empowered position, as she could have easily rejected the invitation to participate with less potential of feeling guilty or obliged.

Discussing the participant's experience of when she fell in hospital, in her own home, provided a more honest and personal insight into the problem. There was less risk to the individual as she shared sensitive information that could have otherwise, in a different environment, resulted in other people, processes or even her own care being (negatively) affected in some way.

#### ***3.4.11.2 Pilot and main data collection phases***

The pilot and main data collection phases of cycle one raised similar ethical issues as the consultation phase. However, there were several fundamental differences - particularly related to the research environment and the status of the participants currently residing in this environment. First of all, patients were contacted face-to-face as it was far easier to access potential participants that were located together on the wards. The ethical concern of this was that patients could have felt pressured into making a decision, as their choice of whether to read the information was made more difficult by the frequency of clinical contact. It was essential that the patients did not feel that they were coerced, obliged or expected to participate due to the natural adoption of different roles within a clinical setting (e.g. the participants as "patients" and I as a "health professional") as well as through being in the hospital environment itself.

Patients were considered as vulnerable adults which meant that recruitment had to be performed with sensitivity and openness. This helped to ensure that participants fully

understood the purpose of their involvement, including the voluntary nature of participating in the study. Patients had to feel free from any expectations associated with a patient-therapist relationship. I recognised that being a working physiotherapist on the ward - and having these same patients under my care - would inevitably impact on each person's decision as to whether they wanted to participate. Having prior experience of working on the wards, I was well aware of the balance of power in decision-making, goal-setting and the planning of care. Therefore, using clear explanations of the purpose of the research and reminding participants of the right to withdraw helped to shift this balance of power closer towards an equal partnership between myself and the participants. Interviews also took place in the team meeting room which, despite still being located on the ward, was rarely used by patients. This reinforced the notion that their involvement was essentially separate from a clinical context and free from any formal obligation to remain a participant.

Due to the nature of the research design, recurrent fallers in cycle one were interviewed more than once. It was important that consent was obtained at each interview as the participants, being older people, often had changing complex physical, cognitive and social problems. For example, the cognitive status of a participant could easily have changed during their hospital stay due to a urinary tract infection, therefore rendering them ineligible to be interviewed until this resolved. [No participant had to be excluded during the study once it had commenced.]

#### ***3.4.11.3 Incident reports***

The remaining element of cycle one was the analysis of the incident report forms. This data, along with the consultation and pilot phases, developed the questions that were asked in the main data collection phase. The level of ethical concern was lower for this activity in comparison to the other phases of cycle one due to the lack of direct contact with other people (e.g. patients, NHS staff). The reports gave details of falls and fall-related incidents that occurred on the rehabilitation wards, often giving a reasonable amount of detail of the causes and consequences of the fall, including injuries sustained and the cognitive status of the patients involved. There was no immediate means of causing physical harm or emotional distress, although it was still possible to identify the staff and patients involved, as well as which rehabilitation ward the fall occurred on. Despite the Trust's own Health and Safety Department being well aware of the incidents, it was considered to be best practice

to treat the information contained within the reports sensitively and with the utmost confidentiality so as to protect the persons (and wards) involved by not disclosing their details.

All collected data (e.g. participant demographic summaries, medical record information, interview data etc.) were treated with the utmost confidentiality, with no reference being made to any individual staff member or patient. Electronic data was securely stored on university computers with restricted access. Access to medical records was granted through the honorary clinical contract with the Trust that acted as Caldicott Guardian.

### ***3.5 Cycle Two: Research design***

Cycle two was concerned with facilitating changes within clinical practice so as to develop services. The primary focus of these changes was on raising staff awareness of issues explored with patients in cycle one, to improve methods of assessing falls risk, and to reduce the number of falls that occurred on the two wards.

#### ***3.5.1 Problem identification***

By the beginning of the second cycle the study was firmly grounded in a comprehensive understanding of the phenomenon, and had a refined direction for the second cycle of research:

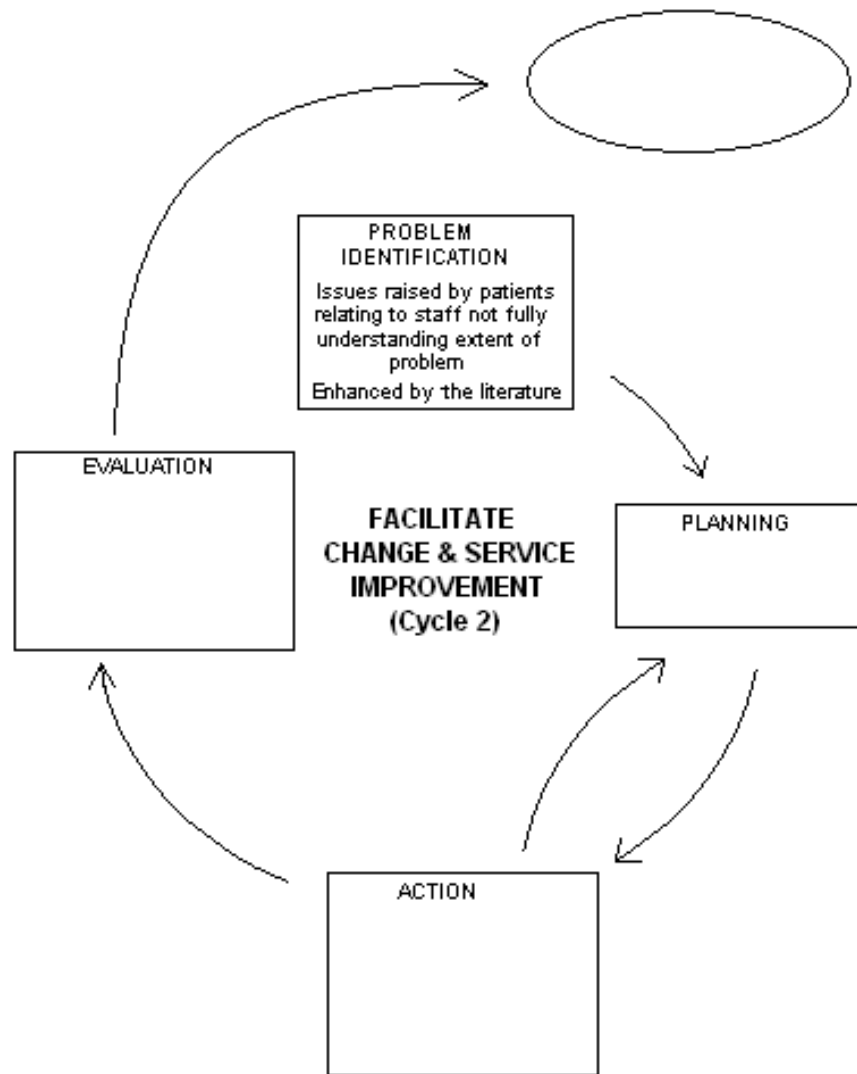


Figure 3.5.1. Cycle Two: Problem Identification phase

Ideas for facilitating a clinical and/or procedural (organisational) change on the two wards were directly informed by a better understanding of the mechanisms, consequences and experiences of falls occurring on the two rehabilitation wards gained from cycle one. However, the planning of using this revised understanding of the problem to generate a potential solution was hindered by the lack of research into hospital-based falls prevention (AGS, 2011; Carroll et al., 2010; NPSA, 2007). The majority of falls studies for an older in-patient population have focused on numerical risk assessment tools (Titler et al., 2011; Lovallo et al., 2010; Heinze et al., 2008; Myers, 2003) and prevention programmes (Cameron et al., 2010; Coussement et al., 2008; Oliver, 2006). It became clear that the content of such interventions reviewed in the latter studies would not be suitable to address



the qualitative issues identified in cycle one. This was supported by the potential incongruence between what professionals considered was “best practice” and the issues which mattered most to patients (Zecevic et al., 2006).

### ***3.5.2 Planning***

Based upon the themes and issues raised in cycle one, the generation of a falls prevention strategy for the two wards had to be founded upon a clear understanding of the phenomenon. The planning of the intervention had to consider placing patients at the core, respecting their individual needs and experiences - a principle advocated by the literature (AGS, 2011; Cameron et al., 2010; Gillespie et al., 2009; NPSA, 2007; NICE, 2004). Staff had to understand the problem from the patients' perspectives as well as their own, and to appreciate that the causes and consequences of falling in hospital pertained to physical, psychological and social domains:

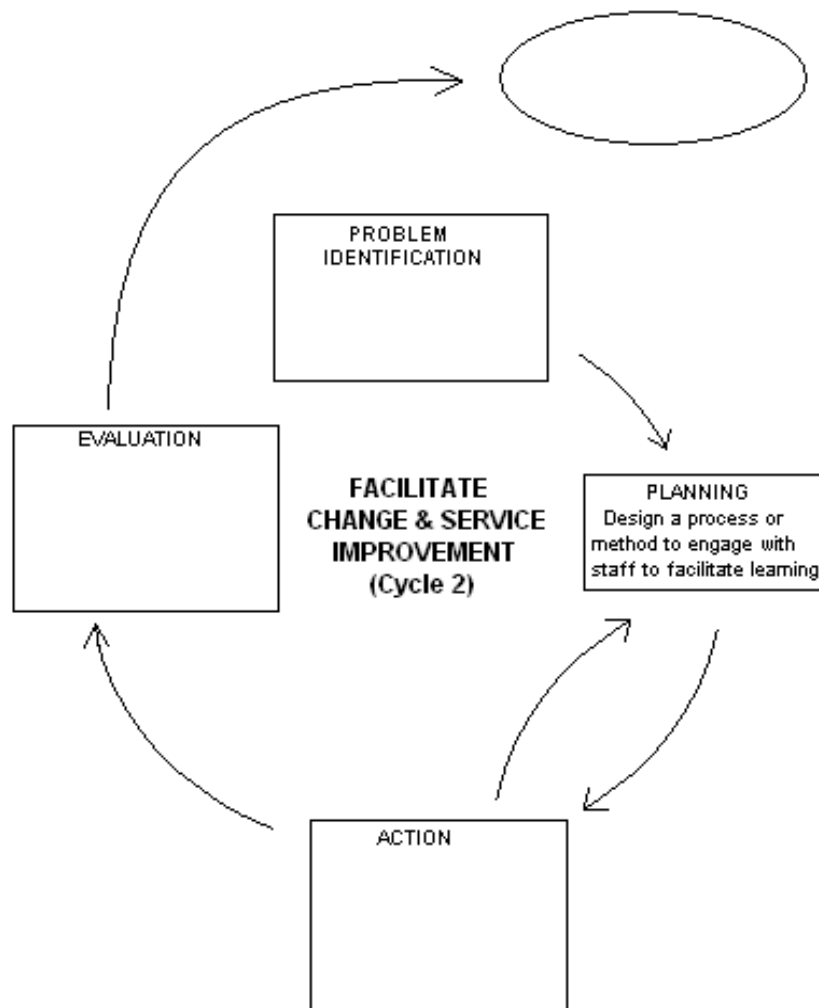


Figure 3.5.2. Cycle Two: Planning phase

Cycle two had to encompass a means of raising staff awareness on the multifaceted issues created - and exacerbated - by a hospital-based fall. For example, staff needed to learn how a fall impacted on a patient's daily behaviour on the ward or how risk management strategies dramatically altered a patient's level of functioning by typically making them more dependent (which belied the goal of rehabilitation and purpose of the wards). To successfully impact on such a personal and professional level it was essential that staff were supported in making the changes themselves, rather than be made to change by an outsider (Waterman et al., 2001). Cycle one data demonstrated that the current model of team-working was inadequate to meet the needs of the patients (Brajtman et al., 2008) and to manage the multifaceted issues related to the falls problem. The benefits of greater collaborative working across disciplines has been well documented (Brajtman et al., 2008;

Thylefors et al., 2005; Gibb et al., 2002), although this approach had not been implemented on the two rehabilitation wards (Reilly, 2001).

A better understanding of the issues from cycle one and an evolving design of cycle two established the need for the forthcoming 'action' phase to be educational. It also had to possess a high degree of staff involvement and collaborative learning, leading to improvements in teamwork, and ultimately, a more effective method of preventing and managing in-patient falls.

### **3.5.3 Action**

The aim of the 'action' phase of cycle two was to implement a strategy delivered at ward-level to create a change in the current prevention and management of falls on the wards:

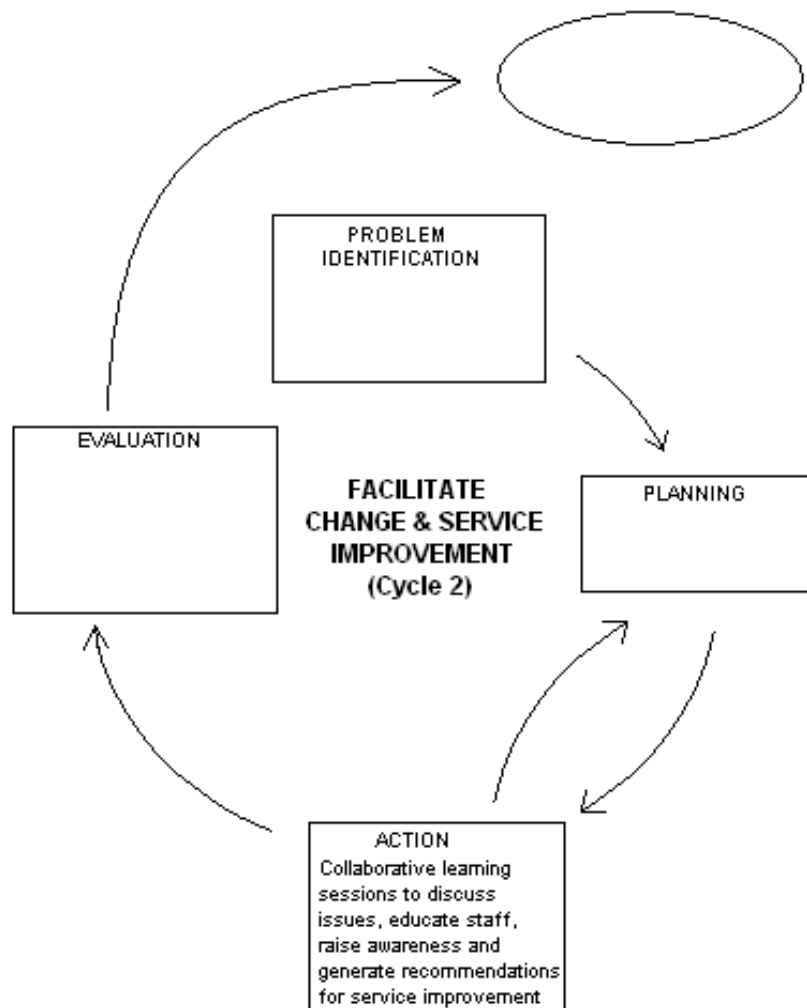


Figure 3.5.3. Cycle Two: Action phase

Some form of group-based activity was the appropriate choice of developing this change as staff needed a means to collectively access and share information on patients that had fallen. Ward staff were asked to participate in a series of group sessions (Brajtman et al., 2008; Gibb et al., 2002) that involved discussions and activities centred on team-working and communication, professional roles and responsibilities, data collected from cycle one, and evidence-based falls prevention strategies. It was envisaged that through closer collaborative working, staff would be educated and empowered to engage with - and take more ownership of - falls prevention in a more comprehensive and cohesive manner. This demonstrated a fundamental aspect of action research, which is the strong emphasis placed upon working in partnership with participants, so as to promote an inclusive approach to the research process (Waterman et al., 2001). Ultimately, this 'action' phase

aimed to prevent in-patient falls and to improve local rehabilitation by developing a more collaborative (inter/transdisciplinary) approach to team-working.

### 3.5.4 Evaluation

The aim of the final 'evaluation' phase of cycle two was to assess the degree of change the intervention had made to the wards. This was achieved by the use of appropriate outcome measures as decided by the participants during group sessions as well as being informed by current falls literature:

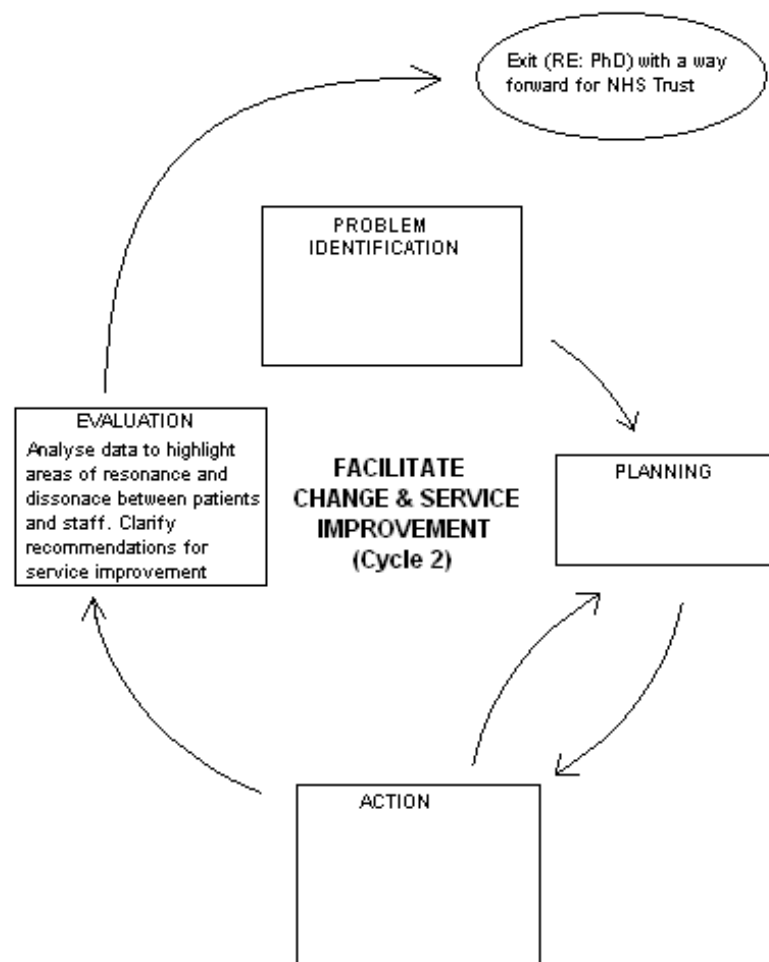


Figure 3.5.4. Cycle Two: Evaluation phase

The research aims (see section 3.1) meant that the analysis of the data had to consider the qualitative and quantitative aspects of the study. For example, total number of falls, falls per

person, injurious versus non-injurious falls rates were analysed using simple descriptive analysis (see Appendix 18). There needed to be an on-going evaluation of how feasible and acceptable the groups were from both the perspective of the staff (ward-level) as well as from NHS managers (organisational-level). For example, staff would be more concerned with changes made to patients' care and discharge planning if the group sessions complemented their daily work priorities; length of stay and financial implications would be more of a priority for NHS managers and care commissioners.

The final element of the evaluation phase was to determine if staff were interested in continuing the use of collaborative learning groups after the official cessation of the study. It was important to encourage a degree of ownership of this learning process so as to ensure sustainability of this model of team-working after the study period has ended. Feedback sessions with ward staff served to clarify recommendations for service improvement, and to identify any changes that had occurred since the completion of the study.

Findings were also fed back to the Trust's Research and Development department so that upper management could decide how best to implement changes to service provision at an organisational level. Findings from cycle two were summarised in a report and submitted shortly after data analysis. This report provided a way forward for the Trust to continue developing its health service.

### **3.5.5 *Methods of data collection***

The primary aim of cycle two was to provide opportunities for staff to express their opinions and share ideas as to how to develop aspects of in-patient falls, such as assessing for falls risks, falls prevention strategies and incident reporting. The research method had to be flexible, encourage participation, be process-oriented, and involve users to improve healthcare practices (Trondsen and Sandaunet, 2009). Cycle two had to analyse existing practice and identify elements for change so as to generate potential solutions to the problem of patients falling in hospital. The research method used in cycle two had to cut across the 'theory-practice' divide (Hannan, 2007) by encouraging staff to evaluate both components of their practice. Staff needed to be empowered to recognise their role as professional knowledge maker, rather than professional knowledge user (Hannan, 2007). Furthermore, in a local and national movement to centralise and proliferate guidelines and

policies, the research process had to provide staff with greater control over their practices, thus enabling longer-term improvements.

Collaborative learning groups (CLGs) were partly educational and improved team-working practices through interprofessional collaboration (Gibb et al., 2002). This method provided a means of developing social interaction through a dynamic exchange of information that would not have been possible had alternative methods of data collection been used (Ruane, 2005), such as questionnaires, surveys, observational analysis or face-to-face interviews etc. It was through this interaction that the beliefs, attitudes and values of staff were explored (Robson, 2011), and changes could be generated from the inside i.e. staff as active collaborators rather than passive observers. Practice is contingent upon practitioner's intentions, values and beliefs (Hannan, 2007), and the circumstances in which these elements are manifested. Therefore, the research method had to draw upon the essence of each member of staff's perspective of the falls problem so as to identify areas of practice development.

The CLGs were largely semi-structured; the educational activities (e.g. falls presentations and reviewing incident reports), falls statistics and data collected from the patients in cycle one had been established prior to cycle two, whereas other topics of discussion were driven by the participants throughout the research period. Table 3.5.5 (overleaf) provides an overview of the topics discussed by participants at each session. A large volume of qualitative data was collected from a number of ward staff, from varying health disciplines, and learning occurred within a social interaction (Robson, 2011; Bryman, 2008). The sessions remained flexible and staff enjoyed their participation. The study was an exploration of a phenomenon that had certain social implications for the staff, that is, the data from cycle one demonstrated the need for joint responsibility and more effective intervention from all staff. Furthermore, the development of knowledge, sustained reform and/or practice changes have been demonstrated to be best achieved through collaboration and involvement (Day et al., 2009).

CLG	Featured Topics
1	<ul style="list-style-type: none"> <li>• Introduced myself and explained my intended role in future sessions</li> <li>• Explained the purpose and structure of the research</li> <li>• Disseminated findings from cycle one</li> <li>• Discussed potential barriers and facilitators to the study</li> <li>• Staff shared their perspectives on team-working and their own professional roles and responsibilities, in terms of falls prevention</li> <li>• Ascertained initial ideas as to the outcome measures that could be potentially used to determine the effectiveness of the CLGs</li> <li>• Gave participants a handout detailing aspects of in-patient falls from the NPSA (2007) document 'Slips, Trips and Falls in Hospital'</li> </ul>
2	<ul style="list-style-type: none"> <li>• Definitions of a fall</li> <li>• Incidence and prevalence - the extent of the problem</li> <li>• Consequences of falling</li> <li>• Attitudes towards falls</li> <li>• Motivation and adherence to interventions</li> <li>• Discussed elements of NPSA (2007) document (as per handout provided in previous session)</li> </ul>
3	<ul style="list-style-type: none"> <li>• Gave participants a journal article of effective team-working (to discuss in CLG 5)</li> <li>• Discussed national response to hospital-based falls, especially NPSA (2007) and NSF (2001)</li> <li>• Asked staff if they had received additional falls prevention training during their employment</li> <li>• Joint-working learning opportunities</li> <li>• Discussed differences in patient behaviour in relation to different health professionals</li> <li>• Discussed differences in clinical priorities between staff</li> <li>• (i.e. providing care vs. providing rehabilitation"</li> </ul>
4	<ul style="list-style-type: none"> <li>• Risk factors of falling</li> <li>• Methods of assessing falls risk (e.g. tools, professional experience)</li> <li>• Definitions of rehabilitation</li> <li>• Attitudes towards the provision of rehabilitation as a concept</li> <li>• Expectations of patients and helping patients to understand rehabilitation</li> <li>• Balance between risk/safety and rehabilitation</li> <li>• Patient behaviour and choices</li> </ul>



	<ul style="list-style-type: none"> <li>• Communication between staff</li> <li>• Team meetings, including decision-making and status</li> <li>• Falls prevention and team-working (e.g. how to work more effectively as a team; benefits of closer team-working; national support for collaborative team-working)</li> </ul>
5	<ul style="list-style-type: none"> <li>• Appraised a journal article on effective team-working (Xyrichis and Lowton, 2008)</li> <li>• Different team structures (i.e. multi-, inter- and trans-disciplinary teams)</li> <li>• Communication between staff, especially nursing handovers</li> <li>• Support from upper management, including development of staff ideas and empowerment</li> <li>• Ward policies and procedures</li> <li>• Goal-planning with patients and different staff</li> </ul>
6	<ul style="list-style-type: none"> <li>• Falls Checklist and other falls documentation</li> <li>• Cognitively impaired patients (e.g. managing falls, strategies of prevention, differences with cognitively 'intact' fallers)</li> <li>• Falls prevention vs. falls reduction, including acceptance of risk</li> </ul>
7	<ul style="list-style-type: none"> <li>• Reflected on past Incident Report forms - good and bad learning points</li> <li>• Falls documentation and the need to keep this updated with details of each falls incident</li> <li>• Cognitively impaired vs. cognitively intact patients (e.g. assessing falls risks and implanting falls prevention strategies)</li> </ul>
8	<ul style="list-style-type: none"> <li>• Reviewed more past Incident Report forms</li> <li>• Discussed how staff perceived different types of fallers, especially those with and without cognitive difficulties</li> <li>• Reflected on participants' involvement in the study e.g. their expectations, benefits of participating, any changes made to their practice, if they enjoyed being part of the research, and finally the future of the study (i.e. feedback sessions when all data analysed and publication of thesis)</li> </ul>

Table 3.5.5 Collaborative Learning Group topics per session

Staffing levels, clinical responsibilities and the desire to collaborate together were potential barriers to the implementation of the CLGs (McKenzie et al., 2011; Portillo, 2008; Sargeant

et al., 2008; Higgins et al., 2007). The professional cultures on the wards influenced the group dynamics, which could have been a disadvantage had the sessions not been appropriately managed and any differences allowed to escalate to conflict (Robson, 2011). However, this was considered to be a positive consequence of providing a forum for debate between staff as it enabled participants to voice their opinions in such a way that flowing dialogue created both 'positive' and 'negative' contextual-insights (Trondsen and Sandaunet, 2009). Involving the staff within the research process gave their participation more meaning (Dempsey, 2008).

Other research methods were considered to lack the necessary means of promoting collaboration. For example, the use of questionnaires, surveys or observational analysis would have targeted a wider audience compared to the staff available on the chosen days and times of each CLG (Robson, 2011). However, this approach would have been too impersonal and would have failed to facilitate any form of group involvement. Interviews would have been useful at collecting a high quantity of qualitative data (Robson, 2011) yet still would not have provided an effective means of identifying movement towards (group) action (Day et al., 2009) that was necessary to create changes on the wards.

A critical element of change was the development of team-working practices, including reflective experiences for staff to understand their position in relation to each other and with patients (Nash and Govier, 2009; Benten and Spalding, 2008; Tolson et al., 2006; Tutton and Ager, 2003). Furthermore, group sessions increased the awareness of staff of social problems (e.g. falling and ineffective team-working practices etc.) within the ward-context ('ontological authenticity'), as well as allowing staff to share ideas with each other ('educational authenticity') (Portillo, 2008). Other research methods would not have been able to achieve this as effectively as the CLGs as group interaction was at the core of this method (Robson, 2011; Bryman, 2008).

The initial CLG lasted for approximately one hour, which was the expected duration. This session was tape recorded and later transcribed, as well as notes being taken. It provided an opportunity to explain the purpose and structure of the research; to disseminate results from cycle one; to discuss the potential barriers and facilitators to the study; for staff to share their perspectives on team-working and their own professional roles and responsibilities, in terms of falls prevention; to gather initial ideas as to the outcome

measures that could be potentially used to determine the effectiveness of the CLGs; and finally, to discuss the potential and actual outcomes of the research.

Participants were encouraged throughout the CLGs to discuss the relationship between patients' falls, particularly falls rates, and their clinical practice. The aim of the study was not so much to measure quantitative outcomes, such as falls rates and numbers of fallers, but rather to facilitate a process for staff to change their practices so as to improve the rehabilitation service, including falls prevention. Therefore, an emphasis was placed on primarily effecting change at a personal and professional-level by evaluating the beliefs and attitudes of staff i.e. whether they believed changes had occurred in their clinical practice.

Following the first collaborative learning group, participants were expected to attend a shorter (20–30 minutes in duration) session every week, over the remainder of the two-month research period. These involved the same staff and were performed in the same private, ward environment. These sessions formed the basis of the 'action' stage of cycle two and served as the means of effecting change in team-working behaviours on the rehabilitation wards. The content of these sessions were a similar continuation of the topics discussed in the first CLG, albeit with a greater emphasis on falls prevention. For example, the patients that had recently fallen were used as case studies to discuss the events surrounding the fall; each incident report (IR1) form was evaluated; staff were updated on any reported injuries; and any amendments to care plans, rehabilitation and discharge planning were discussed. Concepts of team-work, communication, staff training, knowledge and skill sharing etc. were interwoven into these sessions (Brajtman et al., 2008).

The final collaborative learning session was similar in design to the first, but had the primary aim of initially evaluating any changes that had occurred during the research period. For example, the group discussed any changes to team-working or to their roles and responsibilities (especially in terms of falls prevention), if falls incidence had been reduced, and how effective and feasible the CLG sessions were. The final CLG lasted for approximately one hour and was audio taped, with notes taken. The results of all group sessions (e.g. transcriptions, key points, action plans) were disseminated back to all participants in the form of a written summary to mark the end of the research period. This final CLG essentially formed part of the 'evaluation' stage of cycle two. The feedback sessions conducted several months after the last CLG were another opportunity to evaluate the study.

### **3.5.6 Sampling**

One of the strengths of the study in terms of being effective at achieving its aims was based on the strength of the sample. Cycle two had to capture the voices and professional perspectives of staff so as to identify areas of change. Due to the strong emphasis of collaboration and involvement, all staff were considered to be eligible to participate. The aim of this study was not oriented towards creating changes at organisational level *per se*, such as creating new local NHS policy, but rather developing services with staff in direct charge of patient care. However, it was acknowledged that local policy could have been influenced or amended in light of ward staff's involvement.

Sampling had to consider several key points. First of all, the sample had to be representative of all staff who had clinical contact with patients, particularly those with key falls assessment and prevention responsibilities (e.g. documenting incident reports of fallers, completing falls risk assessment tool, providing therapeutic strategies to minimise falls risk etc.). To prevent profession-specific bias, staff were invited to participate from all health disciplines, including 'non-qualified' (i.e. support) staff. Equally, staff from different Agenda for Change bands were recruited so as to ascertain a mix of clinical experiences. The sample size had to be adequate enough to generate discussions between participants and provide the study with an appropriate degree of data in terms of range and depth.

Purposive sampling was used for cycle two as the sample group was entirely comprised of NHS staff that worked on the two elderly rehabilitation wards during the research period. Due to the methodological approach underpinning this study all staff working on the two wards were considered as potential participants. Previous professional contact with staff and the support of ward managers enabled staffing lists to be obtained, particularly regarding nursing and support staff. Staff were recruited from both wards via invitation letters and face-to-face contact. All participants were given information sheets so as to encourage informed consent.

Once all participants had been recruited (i.e. after they had read the information sheet and signed the consent form - see Appendices 19 and 20), each participant was informed of the date of the first CLG; this was within 14 days of participant recruitment. It was intended that each CLG was performed on a similar day and time, every week, to ensure a consistent attendance rate. Participants' future availability was ascertained in order to accommodate

for different shift patterns and holidays etc., although it was accepted that some participants could not have made all sessions. Similarly, if all staff wanted to participate, two groups would have been established. However, the response rate of available staff resulted in a sample of nine participants for each ward. This was a comparable sample size to many studies using focus group research (Robson, 2011).

[See Appendix 21 for a flowchart detailing the recruitment and data collection process of cycle two]

### ***3.5.7 Inclusion criteria***

The aims of the research meant that all members of staff were included so as to encourage collaboration and future ownership over the research. This was a pragmatic study conducted in a 'real' working environment (Renteln-Krause and Kruse, 2007). Critical realism was the philosophical basis of this research, and so the need to describe reality in terms of internal subjective beliefs (i.e. the perceptions and behaviours of individuals) and the external objective mechanisms that are independent of such beliefs (Bhaskar, 1975), meant that it was necessary to involve all staff.

Determining who was appropriate was an uncomplicated process as participants were not classed as vulnerable adults; they had no cognitive or communicative difficulties; and they all worked on the wards. Therefore, all nursing, support, therapy and medical staff were invited to participate. Each CLG had a mixed attendance in terms of numbers and types of profession, although all professions were involved throughout the study period, with the exception of the occupational therapists due to low staffing levels and lack of availability. No member of staff was excluded unless they did not give consent or could not participate due to work commitments.

### ***3.5.8 Methods of data analysis***

Thematic analysis and discourse analysis were extensively used to analyse the data produced by the collaborative learning groups and feedback sessions in cycle two. Data was collected through the use of note-taking as well as from audio recordings. These group

sessions generated a large quantity of qualitative data that required an established analytical framework to identify and conceptualise a clear understanding of the issues discussed by participants (Robson, 2011). The realist approach of Miles and Huberman (Miles and Huberman, 1994) was used to explore and explain the events and processes that occurred during the interaction between ward staff in the group sessions. Realist data analysis served as a means of not only documenting what happened during the group sessions, but also as a means of describing how and why it happened (Robson, 2011). Miles and Huberman argue that qualitative analysis can be used to provide a description of social phenomena by identifying the structure or mechanism at the centre of events, as well as the circumstances in which the structure occurred. Their approach to data analysis consists of three key components: data reduction, data display, and conclusion drawing/verification (Miles and Huberman, 1994); these were used to analyse the discourses of the CLGs.

In an effort to manage and minimise ('data reduction') the large volume of data generated by the CLGs, decisions were made regarding the selection and organisation of the CLGs. For example, the duration of each group session, number of participants, and topics of discussion (i.e. falls prevention and team-work) were specifically decided upon, prior to collecting any data, on the basis of analytical relevance to the study. Several methods for reducing the quantity of data were applied in this study. The first method was the generation of a session summary sheet after each CLG which aimed to summarise and focus what issues were discussed, if there were any modifications required for future sessions, and if there were key points that related to the research questions etc. This information was then coded into categories relevant to the research aims and underpinning themes of the study e.g. teamwork, falls prevention, psychosocial consequences, changes to clinical practice etc. As a means of organising and presenting ('data display') the findings from the CLGs, as well as obtaining a better general understanding of the data, the use of networks (e.g. "spider diagrams") generated conclusions and provided ideas for further analyses. These conclusions were derived from the possible structures and patterns identified from the data and demonstrated the third component of Miles and Huberman's approach to data analysis, known as 'conclusion drawing and verification'. These findings were finally tested for their plausibility and trustworthiness by using supporting evidence from the same or different data set (Robson, 2011).

The three components of Miles and Huberman's work formed an iterative, flowing process of qualitative data analysis for the 'Evaluation' phase of cycle two. For example, reducing the data through the use of session summary sheets after each CLG provided ideas of how to display the data from the audio transcriptions and extensive note-taking; this data was then coded, and the conclusions were verified using similar patterns identified from the transcription data.

Ethnographic analysis was not formally used in cycle two in a pure sense, although I had come to know the participants as I had previously worked with them in a clinical capacity. I had previously engaged in informal observation of clinical practices, for example during joint treatment sessions and team meetings, although my role as session facilitator was maintained during the study to enable staff to explore cultural issues between themselves through group discussions. Themes emerged from the data generated from these discussions following analysis using the above methods.

### ***3.5.9 Trustworthiness and rigour***

Cycle two had to follow the same guiding principles as cycle one to ensure continuity in qualitative research integrity. This meant that each component of the intervention phase had to possess similar quality characteristics throughout, beginning with sampling. The selection of participants was informed by the aims of the research and an enhanced understanding of the phenomenon from cycle one. Therefore, staff from each rehabilitation ward were recruited as a means of providing an appropriate representation of participants with knowledge of the phenomenon.

The 'Action' phase of cycle two implemented a method of data collection (i.e. the collaborative learning groups) that was directly informed by the results and conclusions from cycle one. This choice of method was clinically relevant to the research aims as the sessions aimed to facilitate a change in practice that primarily resulted in improved falls prevention and enhanced team-working. Alternative research methods were not considered to be as potentially effective as the CLGs as they either lacked or were limited in the necessary features required to address the issues highlighted in cycle one e.g. raising awareness through educational activities, providing opportunities to develop team-working and to discuss falls prevention issues etc.

The CLGs involved two ways of collecting data from the participants: audio recording of group sessions with extensive note-taking. This was important to ensure the dependability of the study (Rolfe, 2006), as the transcriptions and notes provided the source of raw data and verbatim quotations - both of which were used to identify and authenticate conclusions. An appropriate analytical framework (i.e. thematic and discourse analysis) enabled a systematic and structured approach to be taken towards coding the raw data (Mays and Pope, 2000), as well as exploring the language behind the participants' comments and opinions.

Despite the lack of standardised outcome measures to evaluate the study, the CLGs and feedback sessions with staff created opportunities to establish credibility in the findings by discussing data with participants, known as 'member-checking' (Cohen and Crabtree, 2006). This allowed staff to volunteer additional information and to assess the adequacy of the data (Barbour, 2001; Mays and Pope, 2000). This continuous analysis of the findings allowed the study to evolve and progress in a way specific to the staff and rehabilitation wards (Fossey et al., 2002; Mays and Pope, 2000). This had the positive effect of a better contextual understanding of the issues and discourse occurring in the research environment that ultimately led to more trustworthy data being collected and provided the basis of a more rigorous approach to data analysis. However, member-checking is not infallible as it assumes there is a fixed, objective truth to which the findings can be compared to yet the data were co-created by participants at a specific time, under certain circumstances. Verifying the findings can lead to confusion and disagreements between participants and researchers, with both groups having potentially different goals (Cohen and Crabtree, 2006).

Lincoln and Guba (1985) believed that trustworthiness of a research study was important to evaluate its worth. Part of this is demonstrating that findings have the potential to be applied in other contexts, known as 'transferability'. The qualitative data from both cycles described the phenomenon of in-patient falls in sufficient detail so as to evaluate the extent to which conclusions were transferable to other settings and people (Cohen and Crabtree, 2006). Generalisation is not always possible as findings are context-related and difficult to replicate (Portillo, 2008). However, this was not an essential aim of the study because a fundamental tenet of action research is to improve practice and develop knowledge to inform future initiatives; this enhances the applicability and authenticity of data (Portillo, 2008).



The choice of sample, data collection method and research environment collectively demonstrated a high level of ecological validity. These three elements of the study were deeply rooted in the real-life, daily situations where the phenomenon occurred (Fulcher, 2005). Using the results to establish external validity (i.e. producing generalisations from the conclusions) was not one of the aims of the study (Shadish et al., 2002), as the fundamental strength of the research was based on its pragmatism, that is, the understanding and prevention of falls on the two rehabilitation wards within the NHS Trust.

### ***3.5.10 Ethical concerns***

Following approval from the School Research Ethics Sub-Committee and the NHS research site's own Research Management and Governance Committee, the proposal was submitted through the NHS IRAS system as the research was performed on NHS premises and involved NHS staff. The application for cycle two was granted approval by a local ethics committee (see Appendix 22 for copy of approval letter).

#### ***3.5.10.1 Maintaining confidentiality***

Despite action research upholding common ethical considerations, the principles of changing practice and collaborative working, fundamental to action research, makes this methodology unique (Lathlean, 1996). Williamson and Prosser (2002) raise three important points relating to ethics in action research. Firstly, it can be difficult to maintain confidentiality, in the conventional sense, as other people in the organisation will know who took part in the research (Williamson and Prosser, 2002). This was relevant for the collaborative learning groups, though the potential for staff on the other ward to know who had chosen to participate in the study was minimised as the wards were separated geographically and rarely engaged in opportunities to collaborate together. Staff were approached discreetly and individually during recruitment and their involvement was not discussed with any other staff member.

Naturally, participants could have discussed their involvement with each other and with non-participants outside of group sessions, or even mentioned to their colleagues that they had chosen to participate. However, staff were reminded at the beginning of the study to

participate within the standards and values of their own profession. Engaging in sensitive and confidential matters was a daily occurrence for ward staff (e.g. medical records and patient data), and so it was emphasised to maintain their professional decorum throughout the whole study.

Participants were advised to refrain from any defamatory or otherwise negative conversations outside of the group sessions. However, certain circumstances were deemed acceptable if they led to shared learning between staff so as to improve the prevention and management of falls on the two rehabilitation wards. For example, if participants had learned a more effective method of completing the incident report forms, then this learning would have been appropriate to be shared with non-participants who might also have had the responsibility of filling-in these forms, despite them not being directly involved in the research. As long as participants did not disclose specific details of group discussions (e.g. individual participants' comments and opinions), then discussing relevant implications for better clinical practice were encouraged. This was a desirable and expected consequence of cycle two.

There were other times when confidentiality was at risk of being breached. Identifiable data had been used and collected during the CLGs. This included the personal details of patients and staff on the incident forms that were reviewed in some of the group sessions, and a summary of the study's findings, including direct quotations, were presented to ward staff and NHS managers after the cessation of the research period (e.g. in the feedback sessions). It was essential that the identities of all those mentioned in this data were protected, and so all names and personal information were blacked out for anonymity (Williamson and Prosser, 2002).

### **3.5.10.2 Consent**

Another major ethical principle that needed to be adhered to in cycle two was consent. Unlike other forms of research with clearly set parameters, expectations and outcomes (e.g. randomised controlled trials), the core elements of action research, such as participation, reflection and purposeful action (Williamson and Prosser, 2002) meant that the direction of this research was largely undecided after the first group session. The nature of action

research is fundamentally concerned with facilitating change, and as such, follows a design that continually evolves in response to findings.

As is common in action research, one completed cycle tends to spiral into a further cycle(s), with each subsequent cycle demonstrating a more authentic understanding of the phenomenon. Change is primarily created through action derived from this enhanced understanding. This was clearly demonstrated in cycle two whereby there was a constant stream of influences that shaped each collaborative learning group session, in terms of content (i.e. issues that participants felt we needed to focus on) and intent (i.e. how much participants engaged in discussing these issues). Each group session retained a focus on falls prevention by having a facilitator (Robertson, 2009) and by being underpinned by a clear set of research aims (see section 3.1). Therefore, attempting to obtain informed consent from participants was complicated by the developing nature of the research.

It was difficult to give a clear sense of direction for the research because all participants, including myself, did not know how the study would progress; we were only aware of the guiding themes of the project (e.g. falls prevention, risk assessment, incident documentation, effective team-working etc.). Kelly (1989) argued that consent should be viewed in conjunction with other ethical principles rather than being regarded as the presiding factor. Therefore, participants were advised that a flexible and open-minded approach was required to fulfil the demands of the research. This provided the grounds on which they could give their consent.

Staff were provided with information sheets, given clear explanations of the aims and potential structure of the CLGs, and were encouraged to ask questions throughout the study duration. Participants were clearly aware that their involvement in the study was on a voluntary basis and they were reminded of the right to withdraw at each CLG. However, knowing that the research was supported and funded by the Trust itself would have inevitably created a feeling of professional obligation (Meyer, 1993), especially since staff were expected to attend group sessions as often as they could. Deciding not to participate or choosing to withdraw from the research once it had begun could have resulted in professional repercussions (Williamson and Prosser, 2002). For example, staff might have inadvertently hindered the development of the research groups through their lack of attendance or they could have been seen to be refusing to support the research that might have impacted on their careers (Lathlean, 1996).

### **3.5.10.3 Protection from harm**

Providing consent demonstrated a willingness to be involved and to support ideas for change (Williamson and Prosser, 2002). It was important that staff appreciated the value of the research and the benefits of being involved in terms of the over-arching purpose of the project. It was just as important for each participant to be made aware of the potential for negative consequences (Meyer, 1993). These could have emerged generally through the research process or specifically from the content of the sessions, such as when findings from cycle one were presented to participants for group discussion. For example, it was clear that the experiences of patients were powerful enough to evoke a strong response from the same health professionals who were charged with their care. Staff inevitably felt the need to defend their actions and offered explanations for the statements made by patients.

Despite the benefits of using cycle one data to create valid group discussions and to generate a balanced argument (i.e. comparing the patients' voice with the staffs' voice), it was necessary to have a process in place to manage any emotional distress experienced by participants. Therefore, it was ensured that all participants had immediate access to a named person who would act as counsel and to provide emotional support if required; my principal academic supervisor was chosen for this role.

Despite a collective ownership of the research, the ultimate responsibility of protecting all those involved in the study lay with me, as principal researcher (Coghlan and Brannick, 2001). Even though each participant contributed towards instigating change, I was acting as the main agent for this change by being the 'mediator' between patients, staff and NHS managers. It was vital that all stakeholders were afforded the same degree of protection from harm, both during the research process and afterwards, for example, in the feedback sessions and in any future publications (Williamson and Prosser, 2002; Kelly, 1989).

### **3.5.10.4 Political consequences**

Williamson and Prosser (2002) stated that it is necessary to protect participants from potentially harmful political consequences. Action research raises important issues such as threats to organisational norms and professional cultures, the beliefs and values of

individuals, developments in existing working procedures, conflicts within power relations, and the commitment to learning and change (Williamson and Prosser, 2002). This was particularly relevant during cycle two whereby NHS managers and staff had agreed to be part of a process designed to facilitate change at procedural-level. For example, it was necessary to obtain approval from NHS managers to allow staff to temporarily suspend their clinical duties so as to participate in the group sessions.

This study was afforded a degree of freedom to uncover and explore the problems that existed at the root of the falls prevention problem. This freedom and acceptance was granted by the Trust through their decision to fund the project. The Trust had already discovered problems surrounding patients falling on the two rehabilitation wards and gave the necessary consent for this study to go-ahead. Their expectation was for the research to provide a means of developing services by finding a possible solution(s) to the falls rate. As part of the Trust's commitment to the research project was the acceptance of the political risks associated with allowing an external researcher to conduct a study using the patients and staff who were potentially part of the problem. It was inevitable that the data would reveal insights into the causes of patients falling on the two wards.

The Trust accepted that funding the research was an active movement towards addressing the problem and that the benefits of finding a solution outweighed the negative consequences of highlighting discrepancies within their own organisation. However, the Trust still needed a degree of control over the storage and use of any data perceived to be potentially harmful. This was particularly relevant since the project was supervised by an external organisation (i.e. the university). It was clearly stated when applying for ethical approval that findings would be used in this thesis as well as being presented at academic meetings, conferences and lectures.

The Trust clearly had a reputation to uphold and needed to be regarded as a safe and effective provider of quality healthcare. Any negative publicity, from the publication of this study or by any other means of disseminating the findings, could seriously impact on the Trust's local and national performance. Equally, the Trust clearly wanted this research project to provide a way forward in terms of service improvement and greater quality of care. Therefore, throughout every method of data dissemination, other than meetings with my supervisors and in-house presentations to Trust staff (including managers), the Trust has remained nameless, thus protecting its identity and reducing the likelihood of political or

organisational retribution from external parties. It was important to emphasise that the ward staff were supportive of the research and had acted in the best interests of the Trust, although they remained anonymous in all data.

#### ***3.5.10.5 Professional morality and accountability***

There were two key methods used to protect participants from political harm during cycle two. The first was to advise participants to act with a degree of professional morality and accountability, within the ethical context of their discipline (Williamson, 2001). Conditions were established early in the collaborative learning groups that entrusted participants to behave in such a way that was congruent with their professional ethos. This was a more effective means of preventing complications leading to political harm than creating ethical codes, such as those suggested by Hart and Bond (1995). The same practical and philosophical considerations apply to action research as they do in profession-specific research e.g. nursing research.

Two ethical arguments have described the appropriateness of ethical codes in action research: deontology and consequentialism (May, 1993). The former is concerned with how universal, external rules can shape the ethical judgements made in action research projects. However, this was inadequate to cover all eventualities and failed to act as an appropriate guide to action generated through the research. The group sessions of cycle two evolved through collaboration between participants and open discussion was actively encouraged which would have been hindered if participants were bound by an ethical code derived from external rules (Williamson and Prosser, 2002).

Consequentialism emphasises the relationship between ethical issues and the 'real-world' context of the research (May, 1993), which was more appropriate for the purpose of cycle two. The CLGs acted as a transformational process for ward staff by changing the way they viewed the organisation (i.e. the NHS Trust) and as a means of developing new and existing relationships with work colleagues throughout the study period (Williamson and Prosser, 2002). Rigidly adhering to any ethical code would have inevitably impacted on this opportunity for change, hindering the flow of collaborative, democratic participation (Gallagher, 1973). Participants were required to take responsibility for their own actions

through adherence to professional morality, and to use this as the guiding principle rather than using limiting ethical codes (Marks-Maran, 1994; Galliher, 1973).

Professional morality was firmly established in the ward staff, with an emphasis placed on personal accountability through autonomous working practices. Any professional that deviated from the regulatory standards or frameworks that underpinned their professional status, through their clinical practice or involvement in research, was likely to adopt an unethical basis for their conduct. The CLGs provided participants with an opportunity to challenge the political dimensions of their working lives on the rehabilitation wards, whilst ensuring appropriate ethical behaviour, through an exploration of their own individual and professional morality (Freshwater, 2001).

#### **3.5.10.6 Ownership of findings**

The second method of protecting participants from harm, suggested by Williamson and Prosser (2002), pertained to the degree of 'ownership' of findings. This is a common feature of action research-based projects that emphasise collaboration and negotiation between participants and the research team. This was important for cycle two as collaborative working and active involvement from the ward staff were fundamental to the generation of knowledge. The participants shared the responsibility for the project, including any political and organisational consequences that arose from the research.

My role as a 'part-insider/outsider' required participants to confirm the accuracy and integrity of the data, thus taking collective ownership of the project (Williamson and Prosser, 2002). This was primarily performed during the research period as each CLG began with a short review of the previous session, and later confirmed in the feedback sessions. The participants had the opportunity to raise any matters arising from previous meetings and findings were presented to staff so that they could verify the accuracy of the data collected. Further discussions were generated which centred on the key issues made by participants, especially the more controversial topics and points that required further clarification. These reviews served as a means of mutual reflection and reinforced the collaborative process that all were engaged in. They also strengthened the ethical dimension of the research by a continual development of the values firmly embedded in each professional's involvement in the research.

### ***3.5.10.7 Preserving the integrity of the data***

It became apparent after the findings had been analysed that several serious ethical issues needed consideration before any findings were presented back to the Trust in the feedback sessions. These issues required the mode of feedback to retain a key characteristic of the research (i.e. the active engagement of participants through a collaborative process), whilst emphasising the need to protect the staff from both wards, to protect myself as researcher, and to preserve the integrity of the data.

One of the ultimate aims of the research was to improve relations between staff. Presenting (negative) comments carelessly and without explanation in the feedback sessions would have inevitably hindered this process and worked against the progress made during the CLGs. The self-esteem, motivation, commitment to change, adherence to Trust vision, and willingness to participate in future research were all key factors that had to be carefully considered when choosing the method of data dissemination to participants. Staff needed to know the findings of the study, and this had to be performed in such a way that remained true to the results - including the controversial issues - yet encouraged all staff to consider the data as a means to bring about changes in their clinical practice. In this way, staff and managers alike could continue to develop and implement strategies to effectively address the problem of in-patient falls.

The presentation of raw data directly to the staff without explanation could have provoked negative responses. For example, some of the comments stated by the nursing staff regarding their disagreements with the therapy team were usually made when the therapists could not attend the learning group sessions. Upon seeing these negative comments for the first time, and without having an appropriate forum in which to debate these issues, could have immediately created (more) conflict between the nurses and therapists. Participants needed to be protected from the potentially harmful and upsetting consequences. Therefore, data were presented to staff with transparency and diplomacy, and explanations were given that emphasised the potential for quotes to be taken out of context. For example, comments were made at a particular moment in time in response to a stimulus (e.g. a question or other participant's comment) yet this stimulus might not have been presented along with the original item of data.



### **3.6 Summary**

This chapter began with a description of the philosophical basis for the study, which placed the research into an appropriate theoretical context. A critical realist perspective was adopted to investigate and understand the phenomenon of in-patient falls. The use of primarily qualitative methodology, following an action research approach, explained and justified the choice of data collection methods and analytical techniques implemented in two distinct yet interrelated cycles of enquiry.

## CHAPTER FOUR

### FINDINGS

The primary aim of the research was to facilitate changes to falls prevention and in-patient rehabilitation services for older people. The two cycles created an opportunity whereby the “voices” of all participants - patients and staff alike - provided unique insights into the phenomenon of older patients falling in hospital. This study was enriched with authenticity by capturing the individual and collective experience of the people that worked and temporarily resided on the two rehabilitation wards. Their participation gave an insight into the wide-range of issues surrounding their experience of a fall occurring in hospital.

The aim of this chapter is to present the opinions of patients and staff regarding hospital-based falls as well as to describe the issues that impacted on their experiences. Both the areas of resonance and dissonance between the two sets of “voices” will be discussed so as to provide a balanced account of the results of the study. The data collected from the consultation phase and semi-structured interviews in cycle one will represent the “voices” of the patients, and comments made during the collaborative learning groups in cycle two will represent the “voices” of the staff.

This chapter will describe in detail, using quotes from participants and data from the incident report forms, the areas of dissonance between participants as well as the issues which overlapped i.e. those which resonated with patients and staff.

The chapter will begin with Mary’s story - data collected from the consultation phase - before presenting the findings from the patients and staff. This chapter will then conclude with the results from the feedback sessions held with ward staff several months after the cessation of the collaborative learning groups.

#### ***4.1 Maintaining authenticity***

To provide a greater sense of authenticity and to place the “voices” (i.e. the data) into their appropriate qualitative context, patients were given pseudonyms rather than being allocated

codenames such as “patient A” or “patient B” etc. The ward staff were referred to according to their profession e.g. Nurse 1, Therapist 2 etc. This was deemed to be ethically sound due to the collaborative nature of action research, that is, staff had participated in group sessions with other work colleagues, and had expressed their views openly, knowing that others would be aware of what was said. Each session was an open forum for debate, and not an interview between researcher and one participant. It was relevant to state the profession of each participant so as to provide an extra element of depth to their comments, such as to elucidate the areas of dissonance between staff. In this way, it was easier to ascertain a clearer understanding of why certain participants might have felt the way they did.

Finally, the names of the two wards and the Trust itself have been omitted from the findings to add further protection to participants and stakeholders. Both wards were similar in terms of patient demographics, numbers of patients, falls rates, length of stay and staffing levels. The primary purpose of providing rehabilitation to adults (particularly over the age of 65) was also shared by both wards. Therefore, the information provided by all participants can be applied to both wards unless specifically stated. Table 4.1 is a description of the basic demographics of the two wards:

	<b>Ward 'A'</b>	<b>Ward 'B'</b>
Average number of staff on duty	Days: 12-14 Nights: 3-4	Days: 12-14 Nights: 3-4
Types of professions involved	Physiotherapists Rehabilitation assistants Ward sisters Nurses Nurse practitioner Support workers Medical consultant Occupational therapists Admin staff	Physiotherapists Rehabilitation assistants Ward sisters Nurses Doctor Support workers Medical consultant Occupational therapists Admin staff
Layout	22 patient beds (incl. 9 allocated stroke beds), day room, therapy room, 3 toilets, 2 bathrooms, dining room, staff room, 2 admin offices, conservatory	22 patient beds, day room and dining room, therapy room, 2 toilets, 2 bathrooms, team meeting room, 1 admin office
Average number of patients occupying beds	22 (full capacity)	22 (full capacity)
Number of falls*	25	18
Number of fallers*	11	12

\* Data collected from Health and Safety statistics, dated January to June 2006

Table 4.1 Demographics of both rehabilitation wards

#### ***4.1.1 Patients' explanations of their experiences***

Despite the benefits of exploring personal experiences of falling through interviews with patients, it must be acknowledged that there could be aspects of their explanations they were genuinely unaware of. Even though all of the participants met the inclusion criteria of having more than 20 out of 30 MMSE score, so as to demonstrate appropriate levels of cognitive understanding, there were other factors that could have influenced the data. For

example, Margaret had a past history of manic episodes and she, plus several other participants, had mental health problems and other cardiac-related illnesses. These could have affected their memories and/or the actual causes of their fall(s). Ron, for example, stated that he did not know the reasons why his balance was impaired and believed that the medical and therapy staff did not know either. The reality could have been that the staff did have a good insight into why he was falling and were currently investigating cardiovascular causes, though perhaps this was not communicated to Ron in a way that he could understand and retain the information.

Any discrepancies in the participants' responses, albeit genuine omissions or inaccuracies, meant that their input was not the sole source of data. The incident report forms, medical notes, risk assessment forms and discussions with ward staff in the CLGs were other forms of data that were used to cross-reference the specifics of falls incidents. In using multiple resources, the raw data could be refined and analysed in a broader sense, encompassing a balanced view of the patients and staff.

## ***4.2 Consultation phase***

As a prelude to the 'action' phase of cycle (i.e. the semi-structured interviews with patients), a consultation was performed with Mary (a pseudonym) who had been a patient on one of the rehabilitation wards. Mary had fallen during her time in hospital and so she had a first-hand insight into daily ward life as well as having personal experience of falling. The original list of questions was posted to her so that she could make annotations based on what she believed were appropriate issues; this was then followed by a face-to-face discussion.

The following few sections of this chapter will present the findings of Mary's feedback to demonstrate how her experience and opinions informed the remainder of cycle one.

### ***4.2.1 Key findings***

Some of Mary's responses were concise and procedural, as we jointly reviewed the falls questions. When all of her feedback was analysed there were both specific and general points she had made that significantly informed and modified the research tool (i.e. the list

of questions) for the pilot phase. This section presents the specific points which related to individual questions as well as the more fundamental issues that required further consideration in terms of exploring the personal nature of falling in hospital.

Mary generally thought the questions were relevant and clear, and she offered a unique insight into the thought processes and emotional responses future patients were likely to express in their participation.

#### ***4.2.2 Logistical issues***

Mary made some initial comments regarding the logistics of how and where to conduct the interviews with patients:

“It’s okay to take longer the first time you ask the questions...even if it takes twenty minutes or so, it’s important you show an interest...it’s important for staff to show interest”; “the questions are generally good to get the information, providing patients are honest enough”; “it needs to be done in a private, quiet environment.”

She raised a good point that patients would be unlikely to remember some of the finer, descriptive items of data, including the day, time and location of falling. She thought that some patients might write these details down whereas others would forget. Therefore, a solution was for each fall to be cross-referenced with the incident report forms and medical notes, which would have provided this descriptive information.

#### ***4.2.3 Understanding and defining the problem***

Mary was asked to comment on a definition of a fall, as per Lamb et al. (2005), and she believed that there was a common assumption that a fall meant coming to rest on the ground: “people are sometimes unsure what a fall is...generally when they’ve fallen to the ground”. She felt it was important to include the question as it defined the problem, otherwise other types of falls might be discounted e.g. slips, trips, stumbles, near misses (Zecevic et al., 2006). Having a definition might have prevented patients and staff from underestimating the problem, that is, if an incident wasn’t considered to be a “fall” then it might not have reported/documented (Haines et al., 2009; Sari et al., 2006). Mary reported

that defining a fall would have helped give participants a mutual understanding of the problem as they would have had a common definition to direct their thinking.

#### ***4.2.4 Subjective responses***

Mary emphasised the likelihood of patients giving mixed responses to the questions. She believed that a fall could mean different things to different people, and as such, their subjective experiences of falling would inevitably influence the quantity and quality of information they provided. She agreed that nearly all of the questions were relevant but emphasised the probability of receiving varied responses. Furthermore, she stated that it might have been difficult to ascertain a clear understanding of patients' views (i.e. to extrapolate key points to be used as evidence of findings) due to this variation.

Her first example pertained to the difficulties in comparing different types of falls from patient-to-patient and within different environments, particularly patients' experiences prior to hospital (in the community) in comparison to falling in hospital. She felt that there were "no real differences...a fall is a fall". This was the first indication that highlighted possible stereotypical attitudes in patients with regards to how they perceived their falls (Kloseck et al., 2008). For example, patients might have displayed stoical or fatalistic attitudes which partly underpinned their whole perception of falling, including the degree to which they thought falling was a problem to them and how involved they wanted to be in resolving that problem e.g. adherence to falls prevention strategies (Kong et al., 2002).

Mary recognised that a fall could be accidental and reiterated the point that responses would be strongly influenced by patients' beliefs as to the severity of falling:

"It can be a one-off at times, so sometimes it's a problem, sometimes it's not"; "if you receive treatment after falling in hospital...I got first aid and help from staff...it's not a problem"; "it depends on what happens, say if you have an injury...it's subjective."

#### ***4.2.5 Linking falls with rehabilitation and prevention***

Mary chose to make a point of the short- and long-term consequences of falling. This was part of her recognition of the temporal aspects of falling as she described the difference

between the acute stages of a fall, including the immediate management, as well as the longer-term problems associated with falling. In particular, she focused on the connections between falling and patients' rehabilitation, especially their mobility. Their motivation and adherence to interventions was emphasised when Mary candidly described how "some patients don't help themselves...they need support from staff". She also used the example of sustaining an injury from a fall (she hurt her head when she fell) in terms of linking a fall with a therapeutic outcome; in this instance, receiving treatment for an injury as a measure of "patients getting better".

She believed that it was important to explore the various aspects of a fall, particularly how certain consequences might not be so immediately apparent. Questions needed to be structured in such a way that prompted participants to consider the different phases of a fall (see the Discussion chapter for further details), including how some aspects of their experiences developed over time. The relationship between falling and rehabilitation, especially the impact on patients' mobility, was a key point that Mary believed required a thorough investigation.

She believed that ascertaining an understanding of patients' views on falls prevention was "useful". A significant part of her response was based on her actual fall, as she stated: "there are lots of wheels...to trip over...such as trolleys and walking frames".

She was unsure whether preventing falls was possible due to the number of risks, yet Mary also believed that patients "shouldn't expect to fall in hospital - this isn't an important question...the answer is obvious", which was evidence of a stoical attitude of not equating the level of risk (e.g. tripping hazards) with actual outcomes.

#### ***4.2.6 Knowing when and why patients fall***

The factors that preceded a fall were deemed to be an important discussion point so as to ascertain an understanding of why patients fell. Integral to this were any immediate warning signs, which Mary believed could be related to dizziness and losing consciousness (Mary blacked out during her fall). She admitted that some patients might have received a warning whereas others would not have, and so this particular line of questioning might have produced a limited response.



Mary believed that it was vital to ask participants why they fell, even though “they mightn’t know...they just can’t stop themselves”. She reiterated the point that every participant would have viewed their fall in a different way, and so to expect mixed responses, particularly if patients were to describe the personal impact of falling to them. This was considered to be advantageous in many respects i.e. to obtain individual perceptions of falling, but Mary emphasised the quality and quantity of information needed to produce good evidence:

“Every patient is different, so some might be able to answer, some mightn’t...it depends on the severity of each fall...the consequences...it might have just been a one-off accident or it could be a real problem to them”; “the question is useful, but there might be some difficulty in answering...some patients aren’t bothered about their fall, whereas some will want to know everything about it.”

#### ***4.2.7 Assistance from staff and patient choice***

External support, and more specifically the role of the staff, was an important factor in Mary’s experience of falling. She reported that this should have been a key question asked to participants so as to highlight either how eager they were to accept assistance from others or how independent they wanted to remain. The immediate management of a fall prompted Mary to discuss this issue further as she reported various aspects of her fall that involved external support:

“Asking what happened next might highlight how staff help patients...it might show how different bits of equipment are used...I was given a choice when I fell but I refused the use of equipment”; “patient safety and patient choice are important here.”

Summoning for assistance was another factor that Mary thought should be included in the list of questions, but she did express doubts as to the relevance of this: “all patients have buzzers...so this might be an easy response”.

#### ***4.2.8 The benefits of the consultation phase***

Mary’s participation proved to be an invaluable insight into the issues which needed to be discussed with patients if the study was to be effective, during cycle one, at understanding the phenomenon of in-patient falls. Not only did she provide information for specific lines of

questioning but Mary also gave an initial sense of the depth of patients' experiences. Fundamental points were raised that helped give the study greater direction and focus in terms of enquiring about the issues that were most pertinent to patients. Mary's feedback highlighted the potential of the research to investigate patients' falls in considerable detail as well as being able to draw out conclusions regarding other related topics, such as rehabilitation, mobility and the involvement of staff (e.g. team-working).

#### **4.2.9 Conclusion: *The development of falls questions***

The primary outcome of the consultation phase was for the list of questions to be asked in the semi-structured interviews to be modified in response to an authentic voice of experience. This phase added to the overall trustworthiness of the study by bringing greater clarity and originality to the research process. The cyclical nature of action research expects a development of ideas (Kato et al., 2008; Waterman et al., 2001), particularly working in collaboration with participants (Dempsey, 2008; Wright et al., 2007). Therefore, this early phase of the study provided the beginnings of a firm foundation on which the remainder of cycle one, and later cycle two, ultimately benefited from.

#### **4.3 Setting the Context of the Wards**

The expectation of patients to improve was based on the assumption that patients would move through several phases of rehabilitation, which were: pre-admission; admission and early-stage rehabilitation; main body of rehabilitation; and finally, end-stage rehabilitation with a view to discharging a patient from the ward. This movement, or pathway, reflected the changes patients underwent as they continued to improve in the areas with which they had previously struggled prior to admission. It outlined what was generally believed to be an average or 'normal' stay in hospital to receive rehabilitation.

A description of the model four phases of rehabilitation will provide a theoretical blueprint of what could be *potentially* achieved from receiving professional input during a stay in hospital. The remainder of this chapter will describe the *actual* experiences of patients and will demonstrate how a fall shifted the trajectory of their expected pathway through the

rehabilitation process to such an extent that patients were unable to achieve their optimal level of independent functioning (WHO, 2009).

The sources of information for the four phases included discussions with staff during learning group sessions and insights gained from previously working as a clinician on the two rehabilitation wards.

#### ***4.3.1 Pre-admission phase***

It was beneficial to know the pre-morbid state of functioning of patients prior to admission so as to give an informal baseline measurement (i.e. the beginning of the pathway). Due to a variety of issues relating to social circumstances, mobility and health, patients were usually identified to be struggling within the community. A health or social care professional had assessed a patient and had regarded them to be at risk, primarily due to a reduced ability to perform functional activities safely. These patients were either not as independent as they once were (or could be), or they required more assistance from carers/relatives.

One of the key factors that needed to be established was if their current state of functioning increased the likelihood of a fall occurring. Therefore, in an effort to pre-empt an incident, such as a fall, patients were admitted into hospital to receive help from health and social care professionals to regain a safe level of independence, including the arrangement of the provision of carers, equipment, home adaptations, or even a different place of living (e.g. a home with easier access or discharge to a care home etc.). Patients were considered to be at their lowest level of ability at this point in time and vulnerable to deteriorating further if their circumstances did not change.

#### ***4.3.2 Admission and early-stage rehabilitation phase***

The process of admitting patients into hospital was always a busy time, and staff reported the need to perform many duties that included administration/clerking patient details, baseline assessments, screening for falls risks, manual handling assessments, and identifying other patient needs. This was a time for staff to obtain an initial insight into the capabilities of each patient and to determine patients' manual handling, mobility and falls

risk status. It was also a time for patients to acclimatise themselves to the wards and to gain a better understanding of why they were there (ACSQHC, 2009). Alongside this process was the potential to set goals that would provide direction to patients' rehabilitation. However, patients' understanding of the purpose of rehabilitation and goal-planning with ward staff were two leading issues that were identified from the research as being important factors affecting early progress.

After discussing issues with participants related to admission and the early-stages of rehabilitation, it seemed as though patients and staff underwent a period of learning whereby patients expressed their expectations about the service in terms of what they wanted and needed, and staff explained what could actually be provided. This process took the form of both formal and informal interactions between patients and staff which ranged from casual conversations to weekly team meetings and (infrequent) goal-planning sessions.

This was a precarious time for patients and staff as neither had a clear understanding about each other. Staff believed that patients were at their highest state of risk at this early phase of rehabilitation due to the reasons they were admitted. Of equal importance was the fact that patients were now in an environment which brought a whole new set of potential hazards (Titler et al., 2011; Hignett and Masud, 2006) and a different pace of living. It was only natural that patients' beliefs and attitudes would be in a state of flux and were more susceptible to being shaped by aspects of hospital care (Kloseck et al., 2008). Admission and early-stage rehabilitation was a time when the beliefs and attitudes of patients began to change as their pre-conceived ideas of hospital were either reinforced or altered altogether, in accordance to how well they were integrated into the rehabilitation environment.

#### ***4.3.3 Main body of rehabilitation phase***

Based upon direct clinical experience and observation of the two rehabilitation wards involved in this study, patients had become more settled into hospital and their rehabilitation programme after the first few weeks since admission. Whether formal goals had been set or not, patients had generally made good progress as demonstrated by less dependence on staff to provide assistance for mobility and functional activities. Throughout the main part of rehabilitation (usually from 2-6 weeks) patients had shown improvements to their overall

functioning and showed increasing signs of regaining their independence. For example, in the first 1-2 weeks, a patient might have required a mechanical standing aid to help them to transfer from one position to another, whereas after several weeks in hospital, the same patient would have likely progressed onto the use of some form of mobility aid to help transfer, with or without assistance from staff. A week or two more, usually no assistance would be required, perhaps only supervision. Naturally, progression depended on many factors, including a patient's medical status, pre-existing conditions, motivation, adherence to therapy etc. However, on the whole, patients demonstrated a vast improvement in comparison to when they were first admitted onto the wards, and continued to show potential in achieving greater independence with further rehabilitation.

#### ***4.3.4 End-stage rehabilitation and discharge***

The last few weeks spent in hospital were the final stages of rehabilitation. Depending on the needs of the patients, staff would be involved as much as necessary. For example, the ward therapists would continue with mobility and activities of daily living (ADLs) practice so that patients regained as many of their pre-morbid skills/abilities as able. By this time, the majority of patients on the two rehabilitation wards had become independent and only required minimal input from staff. Typically, the factors preventing patients from returning home were the completion of adaptations made to the home, the provision of equipment, or awaiting social care input.

It was recognised by staff, and certain patients, that there was a difference between being independent and achieving 'optimal' independence. The former was when a patient had initially attained a level of functioning that meant that staff had to provide minimal supervision or prompting only. No physical assistance was required yet staff continued to exercise caution when patients performed functional activities. Patients had entered a new stage of their overall progress, although staff still considered this to be a fragile time with possible relapses, potentially caused by overconfidence or patients reverting to compensatory strategies and behaviours. Optimal independence came as a result of continued adherence to rehabilitation interventions, providing that practice of good, efficient technique was consistent (Raine et al., 2009). This was a 'higher' form of independent functioning whereby patients required no assistance, supervision or prompting from staff. Patients who had achieved this degree of capability were clearly appropriate to be

discharged home as they were regarded to be safe and in no further need of professional input.

Discharge planning began in the final stages of a patient's hospital stay. Members of the health and social care team would discuss the patient's progress, often with the patient and relatives present. The most appropriate place of living would be decided upon (usually patients' own homes), as well as if any further care needs or equipment had to be arranged (Reed et al., 2002). Only when patients were considered to be safe were they discharged home, although the concept of being 'safe' was always applied on an individual basis. For example, a patient who was fully independent with mobility and ADLs was considered safe to go back to their own home, whereas another patient who did not make as much progress in hospital and was still dependent on others for support would have been "unsafe" to go back to their own home, yet would be "safe" in an alternative environment, such as a residential or nursing care home. Therefore, the health and functional status of patients in the latter stages of rehabilitation largely determined when, where and how they were discharged (Aditya et al., 2003).

#### ***4.4 Participant data***

General demographics and background information relevant to each patient are presented in the table overleaf. This is followed by tables detailing the attendees of the collaborative learning groups and the feedback sessions. These tables have been placed in the main text rather than as an appendix because the information acts as an introduction to the patients and staff who willingly agreed to participate in this study. Their "voices" are used extensively throughout the thesis in the form of verbatim quotations, yet these provide more than expressions of speech; they provide evidence of their experiences and stories. Therefore, the tables present an overview of who was recruited for this study:

Participant Pseudonym	Margaret	David	Joan	Pat	Ron
Gender	Female	Male	Female	Female	Male
Age	77	82	78	88	81
Number of Co-morbidities	5	6	9	7	7
Past Medical History	Bilateral total knee replacements, subluxation of metatarsals, bipolar disease, previous falls, ankle fracture	Polio, previous falls, abdominal pain, hip fracture, atrial fibrillation, depression, malaria	Osteoarthritis, cataracts, anaemia, thrombocytopenia, CVA, right hemicolectomy, renal failure, previous falls, gout	High blood pressure, transient ischaemic attack, diverticulosis, previous falls, gastro-intestinal bleed, chronic kidney disease, osteoporosis	High blood pressure, hyponatraemia, type 2 diabetes, bilateral foot drop, glaucoma, osteopenia, bowel cancer
Number of Falls Risk Factors Identified	5/9	5/9	3/9	4/9	7/9
Number of Falls During Study	1	1	1	2	2
Number of Medications	7	9	9	7	9
Medications Associated With Increased Falls Risk	2	2	0	1	2
Types of Medications	Anti-depressant, anti-coagulant, laxative, anti-psychotic, bone mineral, anti-fungal	Anti-androgen, urinary retention drug, laxatives, anti-depressant, beta-blocker, anti-coagulant, haemorrhoidal preparations, diuretic	Analgesics, laxative, bone minerals, lipid-regulating drug, anti-coagulant, diuretic, proton-pump inhibitor	Hypertensive drug, analgesic, bone minerals, laxative, anti-coagulant, nutritional supplement	Anti-coagulant, anti-diabetic drugs, bone minerals, hypertensive drugs, analgesic
Means of Mobility	Independent with Z/F + supervision	Independent with Z/F	Assistance of 1 person with Z/F	Assistance of 1 person with Z/F	Assistance of 1 person with Z/F
Length of Stay	>6 weeks	>5 weeks	>8 weeks	>9 weeks	>9 weeks

Table 4.4a. Recruited patient demographics

Z/F - Zimmer frame. Falls Risk Factors include: History of Falls (<2), History of falls (3>), History of dizziness or blackouts, Mental State, Vision, Medications, Eliminations, Environmental Hazards, and Unsteadiness.

## Collaborative Learning Groups

Ward 'A':

<b>CLG number:</b>	1	2	3	4	5	6	7	8
<b>Staff attended:</b>								
Physiotherapist	x		x					
Rehabilitation assistant	x	x			x			
Nurse	x x	x x	x	x	x	x	x	x
Nurse practitioner	x			x				
Support worker	x x	x x	x	x x	x x	x x	x x	x x
<b>Total attendance:</b>	7	5	3	4	4	3	3	3

Table 4.4b. Details of staff recruited from ward 'A'

Ward 'B':

<b>CLG number:</b>	1	2	3	4	5	6	7	8
<b>Staff attended:</b>								
Physiotherapist	x	x	x		x		x	
Rehabilitation assistant	x x	x		x		x	x	
Nurse	x x	x	x x	x x	x x	x x	x	x x
Support worker	x x	x x	x x x	x x	x x x	x x	x x	x x x
Doctor	x	x	x	x	x	x	x	x
Student nurse	x	x		x			x	x
<b>Total attendance:</b>	9	7	7	7	7	6	7	7

Table 4.4c. Details of staff recruited from ward 'B'

NB: X = one participant



*Feedback sessions:*

Ward 'A'		Ward 'B'	
Physiotherapist	n = 1	Nurse	n = 3
Nurse	n = 1	Doctor	n = 1
Support worker	n = 1	Support worker	n = 2
TOTAL	<b>n = 3</b>	TOTAL	<b>n = 6</b>

Table 4.4d. Feedback session attendance details

#### ***4.5 Defining a fall***

In order to explore the extent of the problem of patients falling in hospital it was essential to obtain an understanding of what participants believed constituted a fall. This was a good opportunity to compare the beliefs of patients to the professional understanding of the staff as well as to the descriptions contained within the literature (Zecevic et al., 2006). The ways in which patients perceived their fall, according to their own definition of it, would inevitably impact on their overall personal experience of the fall, including self-management and coping strategies, attitudes towards expecting or preventing a further fall, effects on rehabilitation, and recognition of their fall as being a “problem”.

##### ***4.5.1 The loss of balance***

All patients defined their fall(s) by what has been established to be a major intrinsic risk factor i.e. poor balance. This could suggest that in a population of elderly fallers, there was a collective agreement as to what constituted a fall:

David: "It's some kind of weakness...weak legs."

Margaret: "I think a fall is a lack of balance."

Pat: "A trip is a kind of fall...tripping is falling."

Joan: "A fall is when you're unbalanced."

Ron: "It's a loss of balance...something to do with balance."

This loss of balance was fundamental to their responses and was related to a 'mechanical' factor, such as tripping (participant Pat) or a lower limb weakness (participant David). Patients were unable to expand upon their answer, even when prompted, which suggested their understanding of a falls definition was limited under the scrutiny of the research method. However, the remainder of the study demonstrated a more innate understanding of how each patient regarded their hospital fall(s) which grew beyond the limits of their initial responses. Therefore, the essence of their understanding did not appear to reside in direct questioning but rather within the depth of their overall experience. This highlighted the extent to which a fall penetrated into patients' daily lives as well as illustrating the qualitative richness of data. Their responses, albeit brief, partly set the context for each patient's participation in the study.

#### **4.5.2 How staff defined a fall**

The two definitions of a fall that were presented to staff were more comprehensive descriptions, commonly referenced in falls literature:

"A fall is an event which results in a person coming to rest inadvertently on the ground or other lower level, and other than as a consequence of the following: sustaining a violent blow, loss of consciousness, sudden onset of paralysis, as in a stroke, an epileptic seizure." (Kellogg International Working Group, 1987)

"[A fall is] an unexpected event in which the participant comes to rest on the ground, floor or lower level." (Lamb et al., 2005)

These definitions provided a more structured understanding as to what precisely constituted a fall. Neither definition states that a fall is due to a loss of balance *per se*, but rather the occurrence of an event whereby an individual can come to an unexpected resting position.

There was a collective agreement between staff that these definitions accurately described a fall:

Nurse 4: "I think both definitions are good together, although they are a bit too specific."

Doctor 1: "I agree with the definitions, although there is a focus on a pathological reason for falling...this isn't always the case as patients fall for different reasons."

Nurse 1: "The definitions are reasonable...it often depends on the type of patient and professional understanding as to what they think a fall is."

Nurse Practitioner 1: "There are different types of falls, such as cardiac...we have a falls and syncope service."

Support Worker 3: "There are more near misses than true falls."

It was important that qualified and non-qualified staff agreed on a mutual understanding of what constituted a fall if they were to be involved in the process of preventing patients from falling (Roe et al., 2008). The nursing and support staff had the main responsibility for completing the incident report forms following a fall on the wards. If these staff did not regard a patient as a "faller" due to a difference in their knowledge of what they considered to be a fall, then that patient's fall might not have been reported or recorded (e.g. support worker 3's comment: "there are more near misses than true falls"). Furthermore, the detail contained in the report forms might not have accurately described the incident, leading to insufficient information being gathered for organisational learning (NPSA, 2007).

#### ***4.5.3 The value of data and documentation***

One of the secondary aims of the study was to examine the documentation which the ward used to report aspects of patients' falls. The incident report forms were one of the principal ways of documenting falls, and so, as part of the study, staff reviewed past reports with the aim of identifying areas of positive management as well as highlighting issues which they could learn from in terms of developing their practice.

The immediate effects of under-reporting, under-recording and lack of detail in report forms were not so apparent, but the longer-term effects were important considering that the forms

were part of a larger Trust process. For example, the incident reports could have been used by staff to highlight recurrent fallers and patients at risk of falling on their wards, thus identifying the need to allocate appropriate preventative measures:

Nurse 5: "The reports are a way of documenting falls and for staff to learn...as long as some action comes from the report, otherwise it can be a paper-exercise."

Therapist 2: "Staff can learn from each incident, and the forms provide a means of gathering information such as where patients fell, if they suffered any injuries, what time of the day it was and so on."

The incident forms presented an opportunity for organisational learning as the Trust's health and safety department was responsible for gathering statistical data e.g. number of fallers, location of fall, time of fall, injuries sustained etc. This data was frequently discussed in quality care and patient safety meetings with NHS Trust managers who were placed in a position of implementing policies and procedures for more effective care and working conditions:

Therapist 1: "The incident report forms are discussed at the quality and safety meetings...so some end result usually happens."

If they received information lacking in substance and accuracy, then inappropriate actions might have been taken. This would have resulted in hindered (misdirected) progress within the Trust, and financial resources being inappropriately spent (Oliver, 2007).

#### ***4.6 Falling as a problem***

Related to participants' understanding as to what constituted a fall was the depth to which patients and staff believed a fall was a problem. This provoked a mixed response from patients. Some of the patients, particularly David, Joan and Pat, did not regard a fall in hospital as a problem. These patients initially seemed to exhibit a rather nonchalant attitude towards their experience, regarding their fall as an insignificant event:

David: "No, it's not a problem. There are plenty of staff to help. If I feel like I'm going to fall then I will, but it can be prevented."

Joan: "No, not a problem – it was just a one-off accident. It didn't matter."

Pat: "It was just an accident. I wonder if it was just giddiness...I can be like that sometimes."

Margaret and Ron gave an opposing viewpoint in their response. Margaret believed that: "falling is a hazard...actually being in hospital is a problem", and Ron stated that his fall had caused a problem but "less than when I'm at home as more staff are around...although they must walk behind me, not in front." David also shared his opinion, despite initially stating that falling was not a problem to him. He believed that: "if I am going to fall then I will, but staff can prevent some falls if they're close-by to help me."

David's response differentiated between different types of falls. For example, the difference between the feeling of falling that preceded the actual act of falling; a 'near miss', which could be a slip, trip or stumble that had the potential to lead to a more serious fall; and, an incident that resulted in a considerably larger movement, whereby an individual made contact with the ground or sustained an injury. All of these circumstances were covered under the previous generic falls definitions (Lamb et al., 2005; Kellogg International Working Group, 1987), although David seemed to suggest that the specifics of a fall, especially the consequences, partly defined the overall experience of the individual having the fall.

#### ***4.6.1 How staff viewed the problem of falling***

Staff recognised that patients who fell during their stay in hospital presented as a real problem. Throughout the group sessions it was apparent that falling was considered to be one of the key issues that both patients and staff experienced during the course of their daily lives on the two wards.

The key difference between how patients and staff regarded falling as a problem was the way in which participants engaged with the problem. The experience of a fall was very personal to the patients and highlighted a set of beliefs and attitudes which focussed more on psychological and social consequences than the physical properties of falling (e.g. sustaining an injury). In contrast, staff adopted a more procedural approach whereby a fall instigated a chain of events that they were professionally obliged to manage. In this way, staff tended to involve themselves more in the practical elements of a fall that formed part of their clinical duties.

Staff believed falling to be more of a problem to patients in a physical sense, and thus acted in a way appropriate to meet the physical needs of the faller as well as adhering to their professional roles and responsibilities. Some typical examples to illustrate this point included:

Nurse 4: "We have very little information to go on when a patient has just been admitted into hospital, except for what's in their medical notes, so we use the falls risk assessment tool to identify any immediate concerns until we have a better idea of what they're capable of."

Nurse 1: "A fall can easily result in an injury...we need to assess each patient after a fall to see if they've hurt themselves or not."

Support Worker 2: "Some patients will always walk independently and fall, so we need to decrease the risks."

Therapist 1: "Each patient undergoes a manual handling assessment...if a patient has poor mobility then both them and staff can be at risk."

Rehabilitation Assistant 1: "We need to know what mobility aids or other equipment might be suitable for each patient...the physio will do the initial assessment and we'll continue with the rehab."

#### ***4.6.2 The development of short- and long-term issues***

Staff differed from patients in how they viewed the temporal aspects of a fall. Upon learning of a patient sustaining a fall on the wards, staff immediately aimed to prevent further physical complications. Staff appeared more confident with the immediate, short-term aspects of falls management, and emphasised the physical properties of a fall. These were more obvious to staff as they could be readily assessed and managed (Fenton, 2008). For example, if a patient fell and suffered an injury, staff would assess this injury and treat it accordingly. However, there were a multitude of psycho-social consequences that were created by a fall which slowly developed over a period of time that were not as noticeable, and were arguably more difficult to assess and treat. These consequences were significantly relevant to patients and formed the core of their experience of falling.

#### ***4.7 Expectations of falling***

In addition to understanding how patients defined a fall and if they perceived their fall to be a problem, patients were also asked if they expected to fall prior to coming into hospital and if they expected to fall again now that they had already fallen once. Once again, this produced a mixed response from the participants. [It was interesting to note that some of the patients residing on the wards at the time of the study, who did not consent to participate as they believed that they would not fall and therefore would be ineligible to be part of the research, actually did later experience a hospital-based fall. However, they still refused to participate for unknown reasons.]

#### ***4.7.1 Patients' expectations of falling***

Ron had been admitted onto the ward through the emergency care pathway, and stated that there was “simply no time to think about falling...but now the unsteadiness is happening more frequently”. His explanation not only reinforced the connection between balance and falls, but also increased Ron’s expectation to fall again. Ron went into further detail as he stated when and why he would be likely to experience a second fall. Ron could relate the risk of falling to a lack of physical activity or excessive rest, which has been identified to be an important approach to preventing falls (Skelton, 2006):

Ron: “Yes, I expect to fall again, especially first thing in the morning. This is when my legs are stiff after lying in bed for too long. Also in the afternoon as I tend to sit in the wheelchair too long.”

Ron’s response was a good example of how important an individual’s beliefs, values and insight into their problems affected a range of factors. Some examples included personal motivation to achieve rehabilitation goals; the adherence to interventions and advice offered by staff; attempting to maintain functional independence rather than relinquish responsibility to others (e.g. staff, carers); to improve current level of mobility; and also, most critically, to work towards preventing future falls from occurring.

Unlike Ron, Joan did not expect to fall whilst being in hospital for rehabilitation:

Joan: “No I didn’t think I’d fall, and I don’t expect to fall again...hospital is a safe environment.”

Her response was more meaningful and contained information which confirmed her opinion on this matter. Joan felt a degree of trust in this NHS organisation to deliver safe, effective care. She believed that the ward environment provided the necessary means to ensure that she would receive help from appropriately trained healthcare professionals. The fact that Joan had already fallen within this “safe environment” did not seem to change her beliefs; she still retained trust in the ward and the staff.

#### ***4.8 Different types of patient attitudes***

The responses of patients highlighted three different types of attitudes which summarised the ways in which they regarded their falls experience of falling. The patients’ beliefs, attitudes, emotions and coping strategies were integral to each of these three attitudes (Kloseck et al., 2008).

##### ***4.8.1 Stoicism***

The first attitude was a very stoical stance, whereby the individual had clearly recognised that they had fallen but were determined to move forward and progress in their rehabilitation. Their fall did not seem to concern them too much and they appeared more focused on improvement. They perceived their fall to be accidental in origin, as if it was an isolated event that was unlikely to happen again:

Joan: “...it was just a one-off accident. It didn’t matter.”

When Joan was required to consider the short- and long-term effects of her fall, including factors beyond the physical domain (i.e. psychological, emotional and social consequences), some of her deeper fears, anxieties and changes in behaviour were exposed. This did not appear to cause any signs of distress; rather, by helping her to recognise the issues that impacted on her life following a fall, it seemed to encourage Joan to talk more openly about how she viewed her hospital rehabilitation.



#### ***4.8.2 Succumbing to the aftermath***

A second type of profile held by other patients was at the opposite end of the spectrum in comparison to stoicism. These individuals, such as Ron (particularly after his second fall) and Margaret, were clearly affected by their fall, with the negative consequences being immediately evident in their responses:

Ron: "Losing my confidence was a big thing. I do want more exercise but it can be too dangerous. I walk less and less now."

Margaret: "This fall was stupid, it was my own fault. Being in hospital is a problem, and falling is one of the hazards."

They were unsure whether they expected to fall before coming into hospital but their expectations to fall again, as well as their attitude towards their worsening unsteadiness related to their fall, showed that falling in hospital was a problem to them. The way in which they had begun to describe their experience showed how deeply they had been affected by falling. They seemed to have succumbed to a negative post-fall aftermath, which was essentially a capitulation to their problem.

In contrast to the other patients, the responses given by Ron and Margaret gave an early indication that their rehabilitation had been affected. In particular, some of their responses suggested a reluctance to perform tasks independently, therefore requiring more assistance from ward staff. There was also a clear reference to the psychological consequences of falling, such as fear of falling again and reduced confidence:

Ron: "There have been changes in how much assistance I need – an increased need for support from staff. I tend to ask of the wheelchair now."

Margaret: "I'm concerned I might fall again. This makes life more difficult as I require more help. Falling has affected my confidence."

#### ***4.8.3 Detached and nonchalant***

The third type of attitude, mainly exhibited by David and Pat, was more nonchalant. These individuals seemed to take a calmer, more casual approach when discussing their falls

experience. They seemed content in accepting the fall as an incidental event; the occurrence of a second fall was essentially undecided:

David: "No, I didn't think I'd fall before coming into hospital – I just might or not"; "I don't know whether I'll fall again, though not if I can help it"; "I'm unsure if to expect it or not."

Both David and Pat seemed indifferent as to whether they would be likely to prevent a second fall. Their responses gave a feeling of being slightly detached from the falls experience, as if it was a phenomenon that could have easily been separate from the true purpose of their hospital stay i.e. for rehabilitation. Their attitudes were not necessarily careless or entirely fatalistic - both of which could be seen to be detrimental to promoting their functional independence.

#### ***4.8.4 Influences on patients' attitudes***

All three attitudes suggested how a patient's progress during their stay in hospital could be influenced by beliefs and values (Kloseck et al., 2008). For example, the more positive opinions, whereby the patient did not feel their fall was such a major issue, could have suggested the possibility for better outcomes for the patient, including reduced length of stay, the achievement of rehabilitation goals, being discharged to their own home, and optimised functional independence (ACSQHC, 2009). These patients were more likely to engage in therapy sessions, continue to improve (and not limit) their mobility, and adhere to medical and nursing procedures (Whitehead et al., 2006). Better motivation was at the core of this positive attitude:

David: "I just feel that I need to get on with life on the ward...I'm used to the occasional fall or trip."

Joan: "There has been no effect on my rehabilitation. I want to carry on as I was before this happened."

Negative attitudes were reflective of some patients who were less likely to be as successful in coping with the short- and longer-term consequences following their fall:

Pat: "If the nurses don't keep a hold of me I might fall again."

Ron: "Falling is a problem to me, though less than when I'm at home as there are more staff around. However, they must walk behind me, not in front."

Margaret appeared to be in a position of instability, whereby she could fluctuate between managing consequences either well enough to move forward and make progress, or poorly, which could have resulted in less successful outcomes:

Margaret: "I'm unsure whether I'll fall again – it might have been just one of those things. I am more cautious now though, especially when I'm alone."

#### ***4.9 Assessing the risk and expectation of a fall***

There was a collective opinion between staff that a percentage of patients that were admitted into hospital would fall at some point during their stay. Staff accepted this with reluctance but knew from their clinical experience that this was a common occurrence that was not entirely preventable:

Doctor 1: "Some patients will naturally be more at risk of falling because of a wide-range of health problems, such as poor mobility or medical conditions."

Nurse 2: "Decreased confidence, decreased mobility and increased frailty...these can easily cause a fall."

Support Worker 1: "We just know that some patients are more likely to fall than others...sometimes it's just inevitable."

Therapist 2: "Patients with mobility problems are more at risk of falling...their decreased balance puts them at a much higher risk...these patients are likely to fall."

Nurse 1: "We instinctually know who will be at risk from either meeting them...eyeballing the patient...or from the admission letter"; "specific details [of falls risks] emerge over time...staff get an initial feeling, due to our experience, of who is at risk."

Rehabilitation Assistant 1: "Some patients will always walk independently and fall, so we need to decrease the risks."

##### ***4.9.1 Risk assessment documentation***

A significant part of the staff's response to this issue was related to the identification of falls risks. As part of their clinical duties nursing staff were responsible for completing the falls

risk assessment tool (FRAT). This document screened for the most prevalent risk factors of falling, including previous falls, incontinence, poor mobility and confusion/disorientation. This tool originated from community-based therapy teams and so charted a pathway that was not specific for a hospital setting as the patients had already been identified as being at some degree of risk, hence the need for in-patient rehabilitation:

Nurse 2: "The tool originally came from the community...it isn't specific enough for ward-use."

Therapist 1: "The Community Falls Team designed the risk assessment tool...the ward has adopted it to identify patients at risk of falling."

Nurse 1: "It's not always relevant to the clinical area...it was developed from community services"; "referrals to the falls team are ignored due to it being a community-based service."

A referral to any community-based falls services, as indicated by the FRAT, was considered to be inappropriate, particularly in the evening, and therefore was not an option utilised by ward staff. Staff also believed that the falls consultant was already involved with the wards, giving specialist input when necessary:

Nurse 4: "No referrals are ever made...specialists are already involved, such as the falls and syncope consultant"; "we know how to stop falls from happening through our interventions...these are carried out each day by staff working at grass roots level."

Nurse 6: "If a patient goes loopy after 6 o'clock, how can a falls team help?"; "referrals to the community [falls] team aren't required...staff have the training already, especially from the falls consultant."

Support Worker 3: "Advice is not needed from any specialist team...the falls and syncope consultant is already here."

After each assessment form had been completed they were filed away into the medical records and were only ever reviewed if a patient fell. In this circumstance, the same assessment would be repeated, rarely without any formal follow-up. Staff therefore regarded the falls tool to be a "paper exercise" that was too time consuming and diverted them away from more pressing clinical duties. Admitting new patients onto the wards was a busy process, with staff needing to perform a range of clinical and clerking duties. They admitted that the falls tool had to be completed, mainly for legal reasons (i.e. as evidence that staff had assessed for risk), but some felt that it had a limited purpose:

Nurse 2: "We complete a falls risk assessment when patients are admitted onto the ward...it's part of a process of integrating them onto the ward"; "existing scales and tools, like the Braden Scale, have a carryover and definite ways of acting and recording."

Support Worker 3: "We used the falls tool to identify patients at risk of falling, although we can often just tell if a patient is at risk of falling by using our experience and intuition."

Nurse 5: "The reports are a way of documenting falls...it can be a paper-exercise...it takes us away from more important duties...staff rarely have the time to fill them in because they've got other things to be doing instead."

Support Worker 4: "The tool is a paper exercise...it's time-consuming, there's no follow-up, and then it's filed away in the medical records. It's only used again when a patient falls."

Nurse Practitioner 1: "The patient's condition should be taken into consideration when doing falls risk assessments."

Nurse 1: "[the FRAT] is a paper-exercise...it's for auditing...staff still have to do it for litigation reasons"; "it's a lousy predictor of falls...clinical experience is more useful."

Nurse 3: "The nursing staff tend to fill-in the falls tool...it's time-consuming and a paper-exercise, especially with new patients"; "it doesn't help with the care or rehabilitation of patients"; "the tool is buried in the notes...it's not clear, not effective, not easily accessible."

Doctor 1: "I didn't know the tool existed."

Therapist 1 made a comment which demonstrated a potential positive outcome in the use of incident report forms, yet doubt still remained regarding the bridging of any gaps between assessment and intervention:

Therapist 1: "The incident report forms are discussed at the quality and safety meetings...so some end result usually happens."

Other than the formalised FRAT, Support Worker 3 stated that they could "just tell if a patient is at risk of falling by using our experience and intuition". Several participants agreed with this comment and there was a strong sense that staff frequently drew upon their experiential knowledge when determining if a patient was likely or expected to fall. Staff placed a great deal of trust in their intuition and felt that this was often more important than using the FRAT. Staff tended to apply a 'common sense' (subjective) approach to risk identification which was illustrated in their view as to why patients were actually admitted

onto the wards. Staff knew that “decreased confidence, decreased mobility and increased frailty” (Nurse 2) were the common reasons why patients were in hospital for rehabilitation. These are all critical risk factors that increase the likelihood of a fall (Titler et al., 2011; Lord et al., 2007; NPSA, 2007) and provided an unofficial measure for staff to identify the patients who might be expected to fall.

#### ***4.10 Preceding movements and activities***

The duration of patient interviews was such that it allowed a greater exploration of the phenomenon of falling than would usually be allowed for staff during their daily contact with patients (Atwal et al., 2007). Hence, an understanding of the causes of each patient’s fall, with a focus on the mechanics of the event was essential in pushing the boundaries to explore each patient’s experience in further detail.

##### ***4.10.1 Patients’ descriptions of preceding factors***

Patients tended to either describe their fall in terms of losing balance or as some unexpected incident e.g. Joan stated that she “just went down.” They described what movement or activity they were doing at the exact moment of their fall. This gave an indication of the factors that immediately preceded the fall, including the patient’s exact location; the involvement of any equipment/furniture; the presence of any staff or carers; the functional context of the fall (e.g. bed or chair transfers, walking, washing, dressing etc.); and finally, how well the patient had performed the task. All of the patients described falling whilst they had either been walking or performing some other functional task:

Margaret: “I was going to take a rest. I fell between the chair and the bed whilst I was trying to get into bed.”

Ron: “I was walking with my frame...I was heading towards the dining table. I then lost my balance...so I just fell to the floor”; “I was trying to walk to the table for the evening meal.”

Pat: “I just stood up from the bed and walked to the door without my walking aid. I fell behind the door whilst trying to open it. I was by myself”; “I was getting off the toilet but didn’t hold onto the bars.”

Joan: "I was standing up, getting dressed...I lost balance and fell between the two beds."

In David's account he raised a number of significant issues:

David: "I was washing myself, standing at the sink despite being told not to, but I waited too long. I walked to the door because I wanted to get the newspaper and put it in the bin. I opened the bedroom door into the corridor, lost my balance - somehow - before falling down. I slid down the wall to the floor."

The description of the incident seemed to suggest that the staff had either offered their advice in such a way that David had interpreted this as a restriction to his independence (i.e. he was not permitted to perform this task alone), albeit for reasons of safety, or that the staff had been overzealous with their approach to minimising the risk. In either case, David believed he should not perform this task autonomously anymore.

By asking David to describe the movements and activities he had performed at the time of falling, it not only highlighted a bigger and more appropriate element of risk, but also showed the inaccuracy of the existing means of assessing for risk. These factors were in addition to inadvertently making David feel restricted in his normal, daily behaviour. Furthermore, it demonstrated the difference between the risk of falling and the actual cause(s) of falling (Rubenstein and Josephson, 2002). Whilst the intentions of the staff were clearly valid by advising David to seek assistance with certain functional activities, it was important to realise the situation had more factors to it than it initially appeared.

Joan's description of her fall shared similar characteristics as David's experience:

Joan: "I was standing up, getting dressed. The nursing staff asked me to grab onto the bedrail but then I lost balance and fell between the two beds."

As with David's fall, advice was given to decrease the risk of falling and improve safety. However, unlike David, Joan adhered to the advice of the staff yet fell anyway. This did not necessarily imply that the advice was not beneficial for Joan nor did it mean that the staff 'caused' the fall. From Joan's description, it appeared that the fall was caused by a momentary loss of balance. The fact that Joan described the role of the staff as being a direct cause of her imbalance seemed coincidental, although it was sufficient enough to suggest a possible underlying issue for Joan (i.e. impaired balance) that needed to be assessed more comprehensively.

Pat described falling whilst she was transferring off the toilet by herself:

Pat: "I was getting off the toilet but didn't hold onto the bars. I was by myself. I lost my balance and fell sideways."

Pat was unsure whether it was a conscious decision not to hold onto the grab rail. Furthermore, she was also unsure if ward staff had previously advised to do this for her own safety. Pat's fall and the previous two examples highlighted certain external factors which have been strongly related to falls incidents (Titler et al., 2011; Lord et al., 2007; NPSA, 2007; Hignett and Masud, 2006), namely the use (or reliance) of grab rails and limited space in certain areas, such as bathrooms/toilets, the dining area and bedrooms. This was particularly relevant to Ron as he explained that the poor positioning of staff was paramount to the mechanisms of his fall:

Ron: "I was trying to walk to the table for the evening meal. There was one nurse with me, but she wasn't standing close enough. I fell backwards and to my right side"; "I was walking with my frame, the nurse was in front. I was heading towards the dining table. I then lost my balance, the nurse grabbed my jumper but she couldn't keep a hold of me so I just fell to the floor."

#### ***4.11 Warning signs***

Aligned with how patients described how they fell was the need to enquire if they had perceived that a fall was imminent. Not having any warning that a patient might fall significantly changed the importance of screening for risks. The aim of the risk assessments was to identify the patients most likely to fall and to provide the necessary interventions to minimise this risk, thus pre-empting a fall occurring (Oliver, 2008; Healey et al., 2004; Myers, 2003). However, this commonly applied strategy was not without its problems, as explained in the literature review.

##### ***4.11.1 Patients receiving a warning***



Only Pat felt that she was going to fall in both of her falls whereas the remaining patients reported having no preceding signs or symptoms:

David: “No, I never know, it just happened. There wasn’t any loss of consciousness or dizziness.”

Margaret: “No, I didn’t black out or anything. There was no dizziness and I didn’t feel lightheaded.”

Ron: “There wasn’t any dizziness, it just happened...no warnings...I just lost my balance and down I went.”

Joan: “No – it just happened. No blackouts or dizziness. I just fell down.”

#### ***4.11.2 Enhancing staff awareness***

The preparation that staff undertook to identify a patient’s falls risk generally increased their level of awareness and provided some degree of warning. Staff believed that being ‘pre-warned’ with this information was important but so too were their daily interactions with patients. Clinical contact often took precedence over formal documentation (which staff reported to be filed away upon completion and rarely reviewed) in terms of staff treating patients according to their immediate means of functioning and mobility. For example, participants frequently stated that patients often changed their behaviour in the evening and at weekends. Therefore, the nursing staff felt that it was more important to treat these patients in a way befitting to their current level of activity rather than be restricted to guidelines advocated by therapy staff, who were responsible for advising other ward staff on the most appropriate means of manual handling and mobility. In this way nursing staff felt that they had a better understanding of patients’ capabilities which inevitably enhanced their awareness of immediate falls risk:

Nurse 3: “The nursing staff are involved all the time...other staff aren’t.”

Nurse 6: “The nursing staff see the bigger picture”; “the ward should be nurse-led, like it was supposed to be”; “the therapy staff definitely don’t always understand the role of the nurses.”

Nurse 2: “The consultants are only here twice a week, so they don’t know the patients’ capabilities.”

Nurse 4: “[some staff] don’t realise what happens after finishing time.”

Support Worker 3: "...we can often just tell if a patient is at risk of falling by using our experience and intuition."

Nurse 1: "We instinctually know who will be at risk from either meeting them...eyeballing the patient...or from the admission letter."

#### ***4.12 The consequences of falling***

Patients shared their opinions as to what they believed could be the short- and long-term consequences of falling in hospital. They expressed their concerns and raised key issues, particularly related to elements of their rehabilitation. Their experiences included a wide-range of factors that were situated within physical, psychological and social domains. Some of the issues raised by participants crossed these three domains, which suggested how encompassing the consequences of falling in hospital were to patients.

The consequences of falling identified by staff ranged from the most easily observable (e.g. injuries, manual handling procedures) to factors that were more subtle yet significantly impacted on patients' post-fall experiences (e.g. team-working, risk assessments). The changes made to each faller's mobility was a major consequence of falling identified by many of the patients and was a topic of frequent discussion with ward staff. The subject was diverse and encompassed a range of sub-issues such as the choice of walking aids, staff supervision, fear avoidance strategies, and most importantly, the need to achieve a balance between promoting independence and offering enough assistance to ensure patient safety (NPSA, 2007).

##### ***4.12.1 Changes to mobility***

The first issue identified by patients were changes to an individual's level of mobility. This was a common theme shared between most of the participants who considered mobility in terms of walking with a functional purpose:

David: "I walked to the door because I wanted to get the newspaper and put it in the bin."

Ron: "I was trying to walk to the table for the evening meal."

Pat: "I was getting off the toilet but didn't hold onto the bars."

Joan: "I was standing up, getting dressed..."

Margaret: "I was going to take a rest. I fell between the chair and the bed whilst I was trying to get into bed."

David regarded tripping to be a likely consequence of walking that could easily develop into a fall (to the ground): "falling is just one of those things...anyone can trip up". By not recognising that tripping could be a sign of a larger problem, such as muscular weakness, sensory loss or pain etc., David and others, responded by adopting a compensatory strategy:

David: "Falling can make people take more care when they're walking"; "taking more care can help to prevent falls"; "if I was to do the same thing again I would take more care."

Pat: "I'm trying to be more careful now when I do things."

Joan: "I try to more cautious, although this sometimes doesn't work"; "preventing falls can be done by being more cautious with daily tasks, such as walking and getting out of bed."

This was a common strategy that patients applied after they experienced a fall yet was the first step towards generating other problems. This appeared to be a 'risk management' approach that created more compensatory behaviour rather than working towards optimising a patient's ability to perform tasks more efficiently (Raine et al., 2009). Participants typically described being more cautious with functional activities, including decreasing the speed in which tasks were performed, using more support from the environment, and altering the sequencing of tasks. Similar to David's situation described above, this might have initially created a sense of self-efficacy, but in reality only resulted in a short-term management of the problem. By adopting such an approach, it reinforced self-limiting beliefs of patients' own capabilities, evidenced by many of their responses throughout the study.

#### ***4.12.2 Interacting cautiously within the environment***

In addition to patients being more careful when performing certain tasks, there was also a connection between patients walking cautiously and their interaction with the environment (Hignett and Masud, 2006). An example of this was when Joan described an incident whereby she tripped over but did not fall to the ground. Screen doors separated the day room and dining room on one ward. Even though these were always opened up, the metal track, which the doors ran across, was fixed to the floor. Joan had tripped over this metal runner which resulted in an altered gait pattern when she entered these conjoined rooms:

Joan: "When I'm walking to the dining room, I'm more cautious with my foot placement due to the metal kerb. I now take extra care in case I trip again."

Joan also described feelings of anxiety and tension when she approached the dining room area as she knew she would have to face this challenge to her mobility daily. This occurred several times each day for the remaining duration of her stay in hospital. Despite adopting certain physical strategies to cope with the fear of falling again, the mental and emotional distress that Joan expressed was the key barrier that prevented her from making better progress:

Joan: "Walking is such a big problem for me. I don't like to walk by myself anymore...falling has really changed my confidence. I wonder if this is normal for me now."

#### **4.12.3 Effects on balance**

Behaving more cautiously following a fall impacted on patients' balance. This was highly significant given the emphasis that each patient placed on balance in their definitions and expectations of falling. Patients made changes when they planned functional tasks so as to utilise supporting surfaces (e.g. furniture, walls, etc.) and equipment when mobilising. Prior to falling, patients stood independently without any support:

David: "I walk more with a frame now...with supervision...and with the help of staff";  
"I now hold onto the wall when I wash my face in the morning."

Ron: "If a bed lever was fitted to my bed...like the one I have at home."

Pat: "I would want to hold onto the bars when I stand up."

Each patient's balance hadn't necessarily changed in such a short-period due to any physiological reason, for example, through an acute neurological or cardiac condition. Rather the cognitive aspects of postural control had been primarily affected i.e. the planning and execution of functional tasks (Horak, 2006). As patients either consciously or inadvertently mobilised differently, the level of postural activity required to perform tasks was considerably reduced (Shumway-Cook and Woollacott, 2007). Therefore, as patients began to challenge themselves less, their balance became more impaired, and their risk of falling was increased.

David explained that his decreased balance was not necessarily a consequence of falling but rather it was due to his medical condition. Since childhood, he had grown to accept how balance affected his daily life and managed his postural instability by making the necessary compensations:

David: "I had polio as a child which left me with a weakness on my left side more than my right...I usually walk with a stick and I also wear supports in my footwear to help me balance when I walk"; "my balance has worsened since I fell which has caused me to change the way I walk"; "I need to improve my walking...retrain myself...although I'm unsure how successful I'll be in doing this because I'm already restricted in my mobility, from the polio."

Margaret recognised that her balance was not as good as it was prior to the fall. She described balance as primarily being a factor under her own control (i.e. an intrinsic factor), and expressed almost disdainful feelings towards her ability to perform daily tasks, particularly walking, due to this reduction in balance:

Margaret: "My balance is unsatisfactory. I lack confidence. I was overconfident that nothing would happen"; "if I had more sense I could stop me from falling again"; "sometimes it's left to chance...I was unlucky this time"; "I perhaps did more than what I was capable of...it was my own stupidity."

Despite blaming herself, Margaret did not show any signs of believing that she could actually improve her situation e.g. balance retraining. Her response indicated no connection between identifying a personal problem and feeling empowered to take responsibility to resolve that problem, even when she was asked if she could prevent future falls. Instead, Margaret preferred to rely on external resources to improve her situation and altered her behaviour accordingly. She claimed that:

Margaret: "I no longer want to take any chances...I walk with supervision from the staff, especially when I'm turning around...it's important to have someone in charge of my actions."

#### ***4.12.4 Limiting patients' mobility***

Restricting their own mobility by taking greater care resulted in patients avoiding certain tasks and social situations. They compromised their own current level of independence as they believed that what they were doing was in their best interests (Kong et al., 2002). This connection between beliefs and behaviour created a vicious cycle of disempowerment, reduced function and restricted mobility, although it did not appear so at the time of the fall. It was only later in the aftermath (i.e. approximately 1-2 weeks post-fall) that the negative consequences became increasingly detrimental to each patient. Patients applied this protective strategy as they assumed that this was what was safest. However, the situation presented a unique opportunity for ward staff to intervene and help patients to understand that a more appropriate and altogether optimal approach could be explored through rehabilitation.

Modifying patients' mobility, whether that was by offering more support, supervision or changing their walking aid, was perceived by some patients to be an overly restrictive response to managing their risk of falling. Some patients welcomed the additional levels of assistance whereas others objected to the changes:

Pat: "Staff have changed my usual walking aid and I don't know why...I was mobile at home with my stick but now this has been changed to a frame, after my fall."

The decision had been made by staff to augment her mobility without Pat's full understanding. When this point was posed to staff, they offered full clinical justifications to support their reasoning:

Therapist 2: "Patients misunderstand the reasons why their mobility is limited...we do things to prevent injuries from occurring or because of patients being unsteady on their feet."

Rehabilitation Assistant 1: "Rehab is progressive and individual, controlled by the physiotherapists...we try to discourage bad habits...and injuries being caused by falls..."

Nurse 4: "It is often the case of finding the balance between risk and rehabilitation. We need to provide the necessary means of helping patients with their rehab, yet safety, comfort and privacy are also important things that we need to consider."

Support Worker 2: "Some patients will always walk independently and fall, so we need to decrease the risks."

The most prominent responses centred on what staff considered to be the safest and most effective means of mobilising for each patient. Staff could clearly understand the point made by Pat as they felt that clinical reasoning had to be balanced with what patients wanted. In some cases, however, the staff believed that certain decisions had to be made according to what they considered was best. Pat did not show any obvious recognition in her responses of the reasons why staff chose to alter what was "normal" for her. Instead, she regarded these changes to be made without her complete agreement and felt excluded from the decision-making process.

#### ***4.12.5 Conflict within mobility***

Staff recognised the need to re-evaluate the mobility status of patients after they experienced a fall, particularly one that resulted in a physical injury. This was not necessarily prompted from having to complete another falls risk assessment, even though mobility status was a feature on screening tool. Instead, staff seemed to intuitively know that a faller's mobility could be at fault and modifying this was an immediate action that could be implemented to reduce further risk. The nursing and support staff reported that the choice of technique and equipment used was based upon their perception of the functional need of the task:

Support Worker 3: "...we can often just tell if a patient is at risk of falling by using our experience and intuition"; "the physios have got more time and space to do rehab...they've got the use of the gym, which is private, whereas the ward is a public place"; "we don't always have the time...we use what equipment we need to."

133

Nurse 4: "We have very little information to go on when a patient has just been admitted into hospital, except for what's in their medical notes, so we use the falls risk assessment tool to identify any immediate concerns until we have a better idea of what they're capable of."

Rehabilitation Assistant 1: "We need to know what mobility aids or other equipment might be suitable for each patient...the physio will do the initial assessment and we'll

continue with the rehab”; “some patients will always walk independently and fall, so we need to decrease the risks.”

Nurse 3: “Unsteadiness is a major risk factor of falling...the physios assess and make mobility decisions.”

Nurse 6: “Sometimes it’s best not to get patients to walk...we just have to deal with it.”

Doctor 1: “Some patients will naturally be more at risk of falling because of a wide-range of health problems, such as poor mobility or medical conditions.”

Nurse 2: “Decreased confidence, decreased mobility and increased frailty...these can easily cause a fall.”

Support Worker 1: “We just know that some patients are more likely to fall than others...sometimes it’s just inevitable.”

Therapist 2: “Patients with mobility problems are more at risk of falling...their decreased balance puts them at a much higher risk...these patients are likely to fall.”

Nurse 1: “We instinctually know who will be at risk from either meeting them...eyeballing the patient...or from the admission letter”; “specific details [of falls risks] emerge over time...staff get an initial feeling, due to our experience, of who is at risk;”; “we would revert back to what we think is best for us and the patient.”

Nurse 5: “Sometimes changing a patient’s mobility can either increase or decrease the risk of falling”; “we can sometimes use equipment and mobility aids which are useful at completing certain tasks but this might always be the best thing to help patients become more independent...our choice of walking aids can be different to what the physiotherapists would choose.”

The staff responsible for altering a patient’s means of mobilising highlighted an area of conflict between the nursing and therapy staff. Rehabilitation Assistant 1 remarked that: “rehab is progressive and individual, controlled by the physiotherapists”, yet particularly for mobility, the nursing staff felt that they would tend to surreptitiously make adjustments according to the current ability of each patient. They gave the following examples to illustrate their point:

Nurse 6: “Patients can change their behaviour in the evenings and weekends. The therapists aren’t around at these times. So, we usually see how patients walk and then use different pieces of equipment and walking aids if this is what’s needed to get the job done”; “sometimes it’s best not to get patients to walk...we just have to deal with it.”

Nurse 4: “Sometimes changing mobility can change the level of risk...either up or down.”



The principles which underpinned the use of different walking aids were considered to be at the root of many misunderstandings. For example, the physiotherapists often wanted to challenge and progress patients' mobility which sometimes meant using walking aids and therapeutic techniques that the patients (and nursing staff, to some extent) were not completely used to.

Certain walking aids and manual handling equipment were frequently used for therapy sessions to challenge patients and to assess their rehabilitation potential. It was recognised that this caused confusion and even conflict with patients and the nursing staff:

Therapist 2: "Patients misunderstand the reasons why their mobility is limited...this is not always due to the actual fall but rather for reasons of wanting to progress their mobility."

Nurse 2: "Perhaps more explanation is required as to why certain changes are made."

Nurse 3: "There are changes at night-time...with mobility. The daytime staff aren't always aware...we need better handovers."

Doctor 1: "I now recognise the sticker - the mobility chart - above the bed...physios update this information."

Support Worker 2: "Some patients maybe just feel safer with the physios...they associate expertise with them, like when they're walking."

Nurse 1: "More information needs to be written in the care plan and manual handling risk plan."

The role of advice and education played an important part in providing rehabilitation and staff admitted that they could do more to help patients to understand the changes made to their mobility.

The differences in opinion between staff were largely dependent on individual staff members. Despite the underlying inequalities that existed between health professionals, there were particular physiotherapists that ward nurses respected more than others. The characteristics that staff described of these positive interprofessional working relationships tended to focus on communication and mutual understanding:

Nurse Practitioner 1: "Physiotherapists have shown good understanding and flexibility with mobility and transfers."

Nurse 6: "We used to have a really good physio on here...she wouldn't tell you what to do but rather offered useful advice."

Therapist 1: "We work closely with the nursing and support staff...and offer advice when needed, particularly for moving and handling issues"; "the consultant does listen...joint decision-making."

Nurse 1: "It's good when the therapy staff seek out the nurses for handovers, especially after the weekend."

Support Worker 3: "We feel that we can say something to the physios"; "we're confident taking ideas to each other...we're considered, not belittled."

Support Worker 2: "We take on board what others say to achieve rehabilitation...this is usually informal."

Therapist 2: "Professional boundaries are blurred but patients don't always know this."

Nurse 2: "Joint-working sessions would be very useful....to improve a team approach, but it needs the right staff and right level of respect."

Support Worker 1: "More joint-working...to get a mutual two-way approach."

#### **4.12.6 Over-management**

Staff rarely expressed any opinions that might have suggested them taking greater responsibility for patients falling in hospital. One of the few occasions when staff did highlight an area of their practice was in need of change was how they sometimes over-managed falls incidents. Nurse 5 explained how one of the consequences of a patient falling were staff adopting an approach to manage risk that was disproportionate to the gravity of a patient's situation:

Nurse 5: "Staff can overreact following a fall"; "we can sometimes use equipment and mobility aids which are useful at completing certain tasks but this might not always be the best thing to help patients become more independent"; "our choice of walking aids can be different to what the physiotherapists would choose."

The clinical reasoning that underpinned this approach was justified in terms of safety and correct manual handling procedures but often discouraged patients to take more responsibility for their own mobility and transfers.

Other evidence to illustrate how staff perhaps overreacted following a fall included some of the comments staff nurses recorded on the incident report forms:

“Encourage patient to wait for staff to coordinate move.”

“Explained to patient not to try to get out of chair on his own for his own safety.”

“Patient reminded not to get up on his own. Asked to summon a member of staff if he wishes to go somewhere else.”

“...advised to mobilise with supervision at present.”

“Patient to be closely observed for 24 hours.”

After discussing these comments (and others) with participants, it became apparent that staff realised the way in which they responded to a patient falling could have been misinterpreted by patients and other staff, as well as being construed as an overreaction. However, staff were adamant that the interventions they put in-place after a fall had patient and staff safety at the core of their reasoning, and was therefore deemed to be an acceptable response to the situation.

This approach to managing a fall was encapsulated by one member of staff who reported:

Nurse 4: “It is often the case of finding the balance between risk and rehabilitation. We need to provide the necessary means of helping patients with their rehab, yet safety, comfort and privacy are also important things that we need to consider.”

The difficulty arose when some of these issues conflicted with one another, such as when staff believed changing a patient’s usual walking aid was necessary, despite the patient not understanding the reasons for this. Therefore, the response of staff following a fall had to encompass interventions which managed the risk of falling again (and other secondary complications) as well as continuing to work towards the aims of rehabilitation. Staff admitted there were occasions when achieving this balance was difficult and could be interpreted as an “overreaction”, but they believed it was always better to remain cautious, even if this meant placing restrictions on a patient’s daily life, albeit temporarily.

#### ***4.13 Injurious falls***

Most patients reported having sustained some form of injury which made this one of the most common physical consequences to arise from a fall in hospital. Participants tended to suffer only minor problems with cuts, bumps and bruises being the most common injuries:

Margaret: "I bruised my left knee and my left hip is swollen. I think there's been an alteration to my hip replacement. I was referred to the doctor because it was so painful. I discovered this when I went to the bathroom. I also have a pain in my chest...my sternum...especially when I cough."

David: "I cut my neck on the door lock when I fell. The physio assessed my injury and I was told to leave it at the moment. I wasn't given any bandages or first aid. I was happy with the treatment."

Ron: "I banged the front of my head on the leg of the table - it's now bruised and cut. I had shock when I fell...the doctors assessed me and dressings were applied. My blood pressure was checked regularly that night...every hour"; "I had about ten minutes of shock."

Joan: "I bumped my elbow. The doctor examined my but there weren't any scans or treatment needed."

Pat: "I suffered a cut to my right elbow. A bandage was applied."

Despite most injuries being relatively minor, Margaret had to have x-rays performed to her hip following the fall as the doctors suspected a possible hip fracture. [The x-ray revealed a slight displacement to the patient's hip prosthesis.] In all cases, the ward doctor assessed the patient, and the physiotherapist offered some advice to David. Common treatments were bandages, analgesia and regular blood pressure checks. Other than Margaret's x-rays, no other scans or tests were performed.

There was one occasion which highlighted how a fall resulted in a patient being harmed physically, psychologically and functionally:

Ron: "I banged the front of my head on the leg of the table - it's now bruised and cut. I had shock when I fell...it took a while for me to feel better...the nurses looked shocked too. I don't think they expected me to fall....I'm now frightened to go to the toilet...when sitting down, due to falling back and bumping my spine on the metal bars."

There was no mention in any of the patients' responses if staff offered any emotional support following their falls, which would have been appropriate given the psychological and functional context of their experiences. In fact, Margaret stated that her fall had altered the clarity of her voice, although this was dismissed by an "unsympathetic nurse". Greater

physical assistance tended to be offered as a first response from staff and was usually immediately accepted by patients.

#### **4.13.1 *The physical focus of injuries***

Comments made by staff regarding injurious falls highlighted the physical domain in which many of the opinions of the ward staff on other issues could be categorised. It was clearly recognised by staff that patients could sustain an injury from a fall and this was perceived to be the most obvious consequence of a fall. Staff were obliged to report any falls, near misses or accidents, especially if an injury was sustained. The consequence of an injury naturally increased the severity of the incident and created a more serious situation to attend to as well as to document (NPSA, 2007). Therefore, staff took injuries seriously, as evidenced by the completion of the 'injury section' on every incident report form as well as comments made in group sessions, such as:

Therapist 2: "Staff can learn from each incident...if they suffered any injuries..."; "we do things to prevent injuries from occurring..."

Rehabilitation Assistant 1: "We try to discourage bad habits...and injuries being caused by falls..."

Nurse 1: "A fall can easily result in an injury...we need to assess each patient after a fall to see if they've hurt themselves or not."

Nurse 3: "One of the first things we check for when a patient has fallen is if they've hurt themselves."

These showed how staff prioritised the assessment and treatment of any injuries sustained by fallers, and this formed one of the key elements of the overall management and documentation of an incident.

#### **4.13.2 *Documenting injuries***

Discussions on the use of the FRAT and a review of the incident report forms showed that staff always documented injuries sustained by fallers. However, staff expressed some comments which casted doubt on how reliable the incident reports were in terms of

accurately encapsulating the nature and severity of falls-related incidents, as well as providing information for organisational learning (Haines et al., 2009; NPSA, 2007; Sari et al., 2006):

Support Worker 5: "Sometimes we don't tick the 'serious' boxes on the incident reports in case we drop ourselves in it...there might be further investigations by other teams."

Nurse 4: "The previous health and safety officer...told us only to write the basics facts only - he didn't need to know the full extent of the incident."

Doctor 1: "I didn't know the [falls risk assessment] tool existed"; "tools need to be simple and have a score."

Nurse 1: "It's a lousy predictor of falls...clinical experience is more useful"; "maybe there's a training need for support staff to fill-in the risk assessment tool."

Nurse 2: "We complete a falls risk assessment when patients are admitted onto the ward...it's part of a process of integrating them onto the ward"; "existing scales and tools, like the Braden Scale, have a carryover and definite ways of acting and recording."

Nurse 3: "The tool is buried in the notes...it's not clear, not effective, not easily accessible."

Staff felt that they could manage the problem, particularly injurious falls, using resources intrinsic to the ward environment: "staff already know how to manage falls...advice is not necessary" (Support Worker 4). This was not considered to be unsafe or negligent practice as staff believed they were performing their clinical duties to an appropriate professional and ethical standard, with the attitude that "all that can be done is being done" (Support Worker 1).

#### ***4.13.3 Preventing injurious falls***

In terms of reducing the likelihood that a fall would result in an injury, common strategies employed by ward staff, as described in the learning group sessions and frequently documented on the incident report forms, were reported to be the following:

Staff Nurse: "Ensure two staff assist patient into bed. Ensure no obstacles at bedsides. Encourage patient to wait for staff to coordinate move."

Staff Nurse: "Patient's bed was on the lowest setting...to keep patient's bed on lowest setting at all times."

Staff Nurse: "Explained to patient not to try to get out of chair on his own for his own safety. We are going to try to write information down reminding him he needs assistance."

Staff Nurse: "Remind patient to mobilise with his wheeled Zimmer-frame (he had walked without aid)."

Staff Nurse: "Profile bed lowered with mattress on floor. Bed alarm also to be put in place."

Staff Nurse: "Profiling bed was set at lowest level...continue to set profiling bed at lowest level, with mattress on floor at bedside."

Staff Nurse: "Ensure unnecessary clutter is removed from floor space to maintain patients' safety."

Nurse 5: "Mattresses are usually placed next to patients' beds in case they roll out of bed"; "the crash mats have variable effectiveness...they're good if patients are rolling out of bed, but not good if patients stand on them."

Nurse 1: "Beds are put on their lowest setting to reduce the likelihood of patients injuring themselves if they try and get out of bed."

Nurse 3: "...a chair alarm is a common intervention for cognitively impaired patients...but this was ineffective for this patient."

Injurious falls tended to be associated with patients with cognitive impairments. These were considered to be at a higher risk due to their unpredictable behaviour. Some patients were advised not to walk unsupervised as staff presence was seen to be a method of reducing the likelihood of an injurious fall e.g. a patient might still slip or trip but staff believed that if they were nearby they could prevent the patient from falling completely to the floor or into an object, providing that it was safe to do so and did not contravene any health and safety guidelines.

#### **4.14 Psycho-social consequences**

Of equal importance to the physical consequences of falling were the various psychological issues that were integral to nearly every patient's experience of falling. Decreased confidence was the most prevalent consequence experienced by patients. It was a factor raised at various points throughout the interviews, for example, when participants were

asked to describe the impact the fall had on them; to suggest the short- and long-term consequences of falling; if they now had a fear of falling; and finally, if they had any additional comments to make:

Ron: "The loss of confidence is a big thing"; "falling made me lose my confidence with using my walking frame."

Pat: "I feel more un-nerved now, more anxious. I try to be more careful"; "decreased confidence...I feel insecure."

Joan "I don't like to walk by myself anymore...falling has really changed my confidence."

Margaret: "I feel my confidence has been most affected...it has decreased somewhat than before the fall."

The participants' responses demonstrated that they placed more emphasis on the psychological factors related to falling compared to physical consequences. This was a fundamental area of dissonance between the patients and the staff. This naturally might have changed had any of the participants sustained a major injury, such as a fracture, but during the time of the study, falling in hospital posed more of a threat to a patient's psychological and emotional well-being than any physical factor. Not only was the loss of confidence the leading psychological consequence of falling but it also played a major part in many of the participants' overall experience. It impacted on many elements of a patient's rehabilitation, including mobility, social participation and fear of falling.

#### ***4.14.1 The impact on patient confidence***

Patients explained that the feeling of reduced confidence was initially associated with a certain activity but then permeated into multiple areas of their daily lives in hospital. This eventually resulted in a generalised feeling of a lack of confidence. Therefore, what originally began as a specific situation or task whereby participants felt anxious or nervous soon grew beyond this and created an overall feeling of low self-esteem, fear and threat-avoidance. This latter point was evidenced by Ron, Pat and Margaret who reported changes to their daily lives which meant that they did not engage in certain activities:



Margaret: "I don't stay up late to watch television anymore as I get shaky...I don't take chances now compared to my previous normal behaviour."

Ron: "I'm now frightened to go to the toilet...when sitting down, due to falling back and bumping my spine on the metal bars."

Pat: "I don't do anything...I'm not allowed to transfer myself. This makes me feel more secure. I prefer assistance."

Patients associated the negative psychological consequences of a fall with situations involving movement e.g. walking, mobility transfers and performing activities of daily living. Pat described the relationship between feeling "un-nerved" and "anxious" with functional tasks that she and others believed to increase the risk of falling again. If patients either chose not to avoid these tasks or could not avoid them as they were a necessity (e.g. toileting), then the most common strategy used was to exercise greater caution ("trying to be more careful" - Pat). This was similar to when patients explained that they were more cautious when mobilising as they felt that poor balance was the main problem. However, patients also reported exercising greater care because they lacked confidence.

Some of their responses suggested that these were two separate factors, that is, there were times when they attributed changes to their behaviour due to a predominantly physical factor (i.e. poor balance), and there were other times when they felt a psychological factor (i.e. lack of confidence) was more of the key issue. Other patients gave the impression that a lack of balance and a lack of confidence were directly related, with the combination of these two factors being the root cause of their altered behaviour, such as changes to their mobility.

#### ***4.14.2 Professional emphasis of the physical domain***

In contrast to the patients who emphasised the psychological, social and emotional elements of their falls experience, many of the responses of the ward staff pertained to a physical domain. This included the assessment of falls risk (e.g. mobility, continence, medications, and previous falls); treating any injuries sustained from a fall; making changes to a patient's mobility (e.g. issuing different walking aids); and increasing the level of control over a patient's transfers (e.g. using alternative items of equipment, offering more assistance, and advising patients to remain seated).

Staff appeared to be more comfortable with the practical methods of falls prevention as these were considered to form the core of their professional intervention:

Nurse 1: "We manage falls well, using a problem-solving approach."

However, another participant stated that: "we haven't received any training on falls prevention...this could be useful if pitched at the right level for everyone" (Nurse 2). Therefore, this confidence with physical interventions was not felt by all staff but the majority of participants agreed that this was the basis of their approach to preventing falls.

Staff placed less emphasis on the psycho-social aspects of each falls incident. It was not the case that participants failed to recognise issues such as the impact of the patients' beliefs and attitudes towards their fall, but rather their comments did not portray the same degree of importance on these issues as patients placed on them. Many of the staff held the belief that they had a comprehensive understanding and approach to managing the problem of patients falling on their ward yet this could not be entirely substantiated in the patients' experiences.

#### ***4.14.3 Staff recognising psycho-social factors***

There were occasions when staff referred to psycho-social factors which demonstrated that they were aware of this aspect of the patients' experiences, albeit to a lesser degree compared to the physical elements of falling. Multiple topics were discussed over the course of the study which prompted staff to comment on areas such as understanding rehabilitation, adherence to interventions, encouraging patient independence, beliefs and attitudes of patients, and the response of the ward in light of these areas:

Nurse 4: "It is often the case of finding the balance between risk and rehabilitation. We need to provide the necessary means of helping patients with their rehab, yet safety, comfort and privacy are also important things that we need to consider."

Nurse 1: "There is a balance between falls risk, dignity, respect and privacy."

Therapist 1: "Changing attitudes is balanced with patient safety and risk."

Support Worker 4: “We still need to point out rehabilitation...what it means.”

Nurse 2: “The admission information is not good enough...it doesn’t always explain the true purpose of rehabilitation.”

Therapist 2: “Motivation can change with time...it depends on patients and if they see themselves improving.”

Many of the comments maintained close links to falls prevention but tended to focus more on the aims and means of providing rehabilitation. Falls prevention and rehabilitation were similar in essence to one another, as both worked towards helping patients achieve a better state of functioning and quality of life. However, what became apparent was the assumption by staff that the psycho-social aspects of rehabilitation offered an effective means of addressing the psycho-social aspects of the falls problem, yet this was often not the case, particularly for the long-term consequences of falling.

#### ***4.14.4 Recognising patient independence***

The first point that staff raised regarding the psychological aspects of rehabilitation was that: “patients don’t always regard themselves as being ‘disabled’” (Support Worker 5). This statement was made after participants discussed definitions of rehabilitation. This was important because it was the fundamental purpose of patients being on the ward, whether they experienced a fall or not. Support Worker 5 elaborated on their initial remark by explaining that: “some patients can be fiercely independent, and don’t need as much help as other patients who come onto the ward.” Staff used their knowledge and experience to identify new patients who appeared to present with a good prognosis for rehabilitation, with independence initially being at the forefront of their reasoning.

Other staff offered an alternative viewpoint to this issue by suggesting that these types of patients: “...have poor insights into what they’re actually capable of” (Support Worker 3). This was particularly supported by the nursing staff who were usually the first health professionals to meet new patients. They described how it was common for newly admitted patients to have an inaccurate opinion as to their true functional capabilities. Any confusion in the patients’ beliefs at this early stage of their hospital stay was often made worse by an apparent lack of understanding as to why they were admitted in the first place:

Nurse 5: "Patients often have more problems than they actually realise."

Nurse 6: "Patients need to be educated what rehabilitation means early on admission."

Nurse 4: "There are sometimes inappropriate referrals...some patients are unsuitable...the referrers don't understand what rehabilitation is...they have a lack of rehab potential."

Nurse 1: "Patients don't always regard walking with nursing staff as 'therapy'."

Support Worker 4: "We still need to point out rehabilitation...what it means."

Nurse 2: "The admission information is not good enough...it doesn't always explain the true purpose of rehabilitation."

These comments and opinions demonstrated that the beliefs, attitudes and degree of understanding of patients, even prior to admission, were key factors in establishing a firm foundation for rehabilitation, and to a lesser (acknowledged) extent, falls prevention. Problems at this stage could have hindered a patient's acclimatisation onto the ward and negatively influenced how staff perceived these patients.

#### ***4.14.5 Fear of falling***

To obtain a deeper understanding of the origins of why some patients changed their behaviour due to a physical reason, and why others felt that psychological factors were more important, it was necessary to explore a significant consequence of the patients' experiences. The most remarkable sensation reported by patients that went beyond feelings of nervousness, anxiety or a lack of confidence was their fear of falling. The aim of discussing this with patients was to determine if their fall had affected them to the extent whereby they actually felt scared at the prospect of falling down (Vellas et al., 1997).

Almost every patient stated that they had a fear of falling. Their responses gave an indication as to the extent to which patients associated their fear of falling with other physical, psychological or social factors. These ranged from mobility issues, the need for greater assistance from ward staff, a lack of confidence, exercising more caution with functional tasks, and hospital-to-home discharge:

Joan: "Yes, I've always had a fear of falling in hospital. I try to be cautious but sometimes it doesn't work."

Pat: "If nursing staff don't keep a hold of me, I might fall again."

Ron: "I do fear that I might fall again, though it would be more dangerous if I went home as I'd be unable to walk by myself, even with the frame."

Margaret: "I don't have a great fear of falling, but I am concerned that I might fall again. It makes life more difficult as I require more help. The fall has affected my confidence."

#### ***4.14.6 The impact on social behaviour***

The psychological consequences from falling directly impacted on Margaret's social life. Feeling scared at the prospect of experiencing another fall, Margaret adopted a threat-avoidance strategy. She reasoned that by no longer watching television in the evening, and going to bed prematurely, she could reduce the risk of falling again:

Margaret: "It was in the evening when I fell, around the same time that I liked to watch my favourite TV programme....I don't stay up late to watch television anymore as I get shaky...so I go to bed early now."

Margaret associated the risk of falling to certain leisure activities and temporal factors as she described how she could no longer pursue the activities that she had previously enjoyed and which had formed a means of promoting independence as well as improving her overall mood. Margaret spoke of feelings of disempowerment and being trapped in a certain way of behaving, as if her fall was now keeping her a prisoner within a limited social structure.

Ron described his fear of falling within a social context as he felt that his risk of falling again was reduced whilst he was in hospital:

Ron: "I do fear that I might fall again, though it would be more dangerous if I went home as I'd be unable to walk by myself, even with the frame...being in hospital is best for me at the moment, though I hope I can get home soon."

He associated his mobility issues with a psychological consequence, and felt that if this was where the problem originated then equally this was the factor that needed to be changed (e.g. through more verbal support, encouragement, counselling etc.). However, Ron gave

little indication that staff had offered the means of addressing this psychological barrier. Staff appeared to offer only more physical assistance, which was a critical factor that differentiated between mobilising in hospital and at home. Ron's responses gave an indication to his perceived levels of self-efficacy in relation to these two environments. It was clear that Ron wished to be discharged home, although not at the present time.

Margaret's experience demonstrated how the consequences of a fall encompassed more than physical components as well as how some patients placed self-imposed restrictions on themselves in terms of mobility, functional tasks and social/leisure activities. Furthermore, she gave no indication that the ward staff were aware of her change in behaviour which illustrated how some of the short- and long-term consequences went unnoticed, and therefore, failed to be addressed. The relationship between psychological and social factors was significantly personal for several of the participants, and acted as a multifaceted barrier to making progress in their rehabilitation.

#### ***4.14.7 Trust in service provision***

Joan expressed mixed feelings with regards to her experience of being in hospital. Part of what she had described was a strong sense of faith in the ward staff and hospital rehabilitation service, in terms of providing a safe and supportive environment in which to improve functioning:

Joan: "Help is always there...staff can assist when I need it"; "I don't expect to fall again...hospital is a safe environment."

Joan made other comments that suggested she also had feelings of anxiety about falling again. She recognised that she had a falls history that was clearly associated with being in hospital:

Joan: "Yes, I think I might fall again - I'm always falling in hospital."

Believing that falling was a problem to her when she was in hospital, despite this being a "safe environment", highlighted possible flaws in the falls prevention strategies that were in place on the rehabilitation ward as well as at the locations of her previous hospital

admissions. She felt that she had little choice but to adopt a strategy of trying to be more cautious even though she admitted that this approach: “sometimes doesn’t work”. Her choice reflected her attempt at trying to solve the problem personally rather than relying on greater assistance from other people.

Ron attributed part of his falls to be a result of ward staff failing to understand his mobility problems:

Ron: “I walk with staff, but staff need to be in the right position...they couldn’t support me...there is no-one behind me when I walk”; “there was one nurse with me but she wasn’t close by”; “I have poor balance, but there’s no reason for this given by staff...the nurses don’t know the situation...the doctors don’t know so I have no chance of knowing...the nursing staff don’t understand that they need to walk behind me.”

His responses demonstrated a lack of faith in the ward staff to provide adequate support when he walked. He placed a lot of emphasis on the role of staff in providing assistance and depended on them for his safety, yet he felt that staff could no longer meet his needs. This was perhaps a key factor in why he believed that: “my frame is no longer suitable - I need a wheelchair”.

#### ***4.14.8 A positive acceptance - facing the fear***

Unlike the other patients, David did not express any fear of falling. He displayed a reasonably confident attitude and simply wanted to regain a sense of normality after his fall. He chose to accept his situation as a means of a coping strategy and tried to not let his fall affect him to any significant degree. This was reflected in such comments as:

David: “Falling is just one of those things...I just need to get on with life on the ward...I’m used to the occasional fall or trip”; “the fall didn’t affect my daily life - with meals, walking and so on...these are all fine. I just got on with things...my daily life is unaffected.”

David showed signs of wanting to retain his independence by wishing to move forward with his rehabilitation. This was such a fundamental point as so many of the other patients described the physical and psychological difficulties that underpinned the restrictions to their mobility, their loss of confidence and greater dependence on staff. However, despite

upholding a positive attitude towards his falls experience, David recognised that it was important not to “become complacent with my actions”. He had accepted his relatively high risk of falling as he felt it was an inevitable consequence of his polio and advanced age.

#### ***4.14.9 The difficulties with assessing fear of falling***

The fear of falling was an emotional and psychological state experienced by the patients only, although there were a range of issues related to this which concerned ward staff. The depth to which this fear had impacted on the lives of these hospital patients was not always immediately clear. Staff expressed more views related to the short-term aspects of a fall rather than the longer-term problems, as this was an area that usually required some form of physical input from staff, such as assessing for injuries or changing mobility aids etc. The fear of falling again, with the likelihood of sustaining an injury, was a psychological consequence that developed over time and affected other areas of patients’ rehabilitation. To make the situation even more challenging, there were daily pressures added to staff, such as staffing levels and availability of resources that made it less likely for staff to be able to effectively and consistently deal with the mental well-being of patients following a fall.

Staff did not deliberately ignore the potential long-term consequences of falling, but rather they emphasised that other clinical duties tended to take precedence that prevented staff from addressing psychological issues. An example of this was the falls risk assessment tool. This document was held with little regard by ward staff:

Support Worker 4: “The tool is a paper exercise...it’s time-consuming, there’s no follow-up, and then it’s filed away in the medical records. It’s only used again when a patient falls.”

Support Worker 3: “We used the falls tool to identify patients at risk of falling, although we can often just tell if a patient is at risk of falling by using our experience and intuition.”

Nurse 5: “The reports are a way of documenting falls...it can be a paper-exercise...it takes us away from more important duties...staff rarely have the time to fill them in because they’ve got other things to be doing instead.”

Nurse 1: “...a paper-exercise...it’s for auditing...staff still have to do it for litigation reasons”; “it’s a lousy predictor of falls...clinical experience is more useful.”



Nurse 3: "The nursing staff tend to fill-in the falls tool...it's time-consuming and a paper-exercise, especially with new patients"; "it doesn't help with the care or rehabilitation of patients"; "the tool is buried in the notes...it's not clear, not effective, not easily accessible."

This opinion was shared by many members of the nursing and support staff from both wards, who were responsible for completing the forms, and highlighted the apparent strength of staff to manage a fall in the immediate short-term, but illustrated some of the difficulties in addressing the longer-term issues, of which fear of falling was one.

#### ***4.14.10 Influencing psycho-social consequences***

Another key area that concerned ward staff with regards to fear of falling was the question of whether their input either exacerbated or dispelled patients' anxieties. As previously described, staff tended to focus less on patients' fear of falling and preferred to move forwards with some form of physical risk management strategy, thus 'diverting' away from the psycho-social consequences of falling. When considering some of the coping strategies used by patients, including ways of avoiding certain situations or tasks, staff did not always show that they were aware of the impact that the fear of falling actually had on each patient's progress. They commented very little on their aim of wanting to challenge these strategies or to offer patients alternative methods of self-management.

Patients perhaps did not seem to deliberately give a false impression of their physical capabilities, but rather their fear of falling made them believe that mobilising independently would be unsafe. This belief was reinforced by the staff's willingness to either assist or restrict the patients' mobility. Examples were documented in the incident report forms which illustrated this point:

Staff Nurse: "Ensure two staff assist patient into bed. Encourage patient to wait for staff to coordinate move."

Staff Nurse: "Explained to patient not to try to get out of chair on his own for his own safety."

Staff Nurse: "...summon staff for assistance with mobilising."

Staff Nurse: "Patient advised to use the buzzer when wanting to mobilise."

Staff Nurse: "Patient is usually independently mobile with wheeled Zimmer-frame...advised to mobilise with supervision at present."

Staff Nurse: "Patient reminded not to get up on his own. Asked to summon a member of staff if he wishes to go somewhere else."

Staff Nurse: "Try to tell patient not to walk on his own for own safety."

Staff Nurse: "Patient reminded to use nurse call when needing to get up from bed."

Staff Nurse: "Patient advised not to walk by herself this evening; staff to escort her."

#### ***4.14.11 The long-term impact***

The responses of ward staff indicated that a comprehensive understanding of each falls incident, particularly in the long-term, was never accomplished. This longevity allowed secondary problems to occur which had the potential to continue after being discharged (Davenport et al., 2009), such as dramatic changes to how patients felt about their rehabilitation:

Ron: "My frame is no longer suitable - I need a wheelchair"; "I'm now frightened to go to the toilet...due to falling"; "there have been changes in how much assistance I need...an increased need for support from staff"; "I tend to ask of the wheelchair now."

Margaret: "I'm concerned I might fall again. This makes life more difficult as I require more help..."

Nurse 2: "Patients are often discharged, say to a nursing home, but then they fall and bounce back in again."

The initial problems that were created from experiencing a fall appeared to permeate into other aspects of patients' lives. Staff were aware of problems that arose after discharge but believed that these were unrelated to the original fall in hospital. Staff considered the lack of community-based rehabilitation as well as changes made by patients to their daily function and mobility (which perhaps increased their risk of falling again), caused so many re-admissions and long-term problems:

Nurse 1: "There is a lack of community services...patients don't get the care or rehab that they need after they've been discharged from hospital."

Therapist 1: "There's a waiting list for patients to be assessed by the community rehabilitation team."

#### ***4.14.12 Length of stay and discharge***

The fear of falling highlighted two elements of ward life that were seriously affected by experiencing a hospital fall. Only a few patients commented on length of stay and discharge despite these being important elements of a hospital stay:

Joan: "My balance is improving with time on the ward."

Ron: "I do fear that I might fall again, though it would be more dangerous if I went home...being in hospital is best for me at the moment, though I hope I can get home soon."

Ultimately, the aim of both wards was to help a patient to achieve their optimal level of independent functioning so as to enable them to be discharged to the most appropriate location - ideally, back to their own home. The level of support, such as home adaptations and care packages, was largely determined by how the patient could potentially manage within this environment.

Some of the consequences of falling in hospital were independent (stand-alone) factors, whereas others were integral to various aspects of patients' lives. Many of the patients focused on a loss of confidence, poor balance, less walking, the need for greater assistance etc. However, length of stay and location of discharge were important as it was intended that a stay in hospital was only a temporary experience, that is, a patient went into hospital to receive rehabilitation for a certain length of time and then (hopefully) was discharged back home again. The various physical, psychological and social consequences of a fall impacted on these two factors and dramatically changed the outcomes for patients at various points throughout their in-patient stay and discharge-planning. For example, changes to mobility were a significant and common short-term consequence of falling in hospital. If patients did not recover from their fall, either physically or psychologically, as evidenced by impairments with their mobility, then they were more likely to take longer to rehabilitate (Renteln-Kruse et al., 2006; Schwendimann et al., 2006) and were less likely to return to their own home (Aditya et al., 2003).

Ward staff expressed a negative opinion with regards to the involvement of family members in discharge planning. The only other time relatives were mentioned by staff was related to an incident whereby staff were made to feel like “bullies”. Staff preferred to manage discharge planning, often keeping the patient and relatives at a distance:

Nurse 4: “Families are sometimes involved around discharge, but they’re generally excluded as they add more pressure and confuse things.”

#### **4.14.13 Participation in rehabilitation**

The psycho-social consequences of falling tended to develop overtime, well-after the initial fall. By avoiding certain situations not participating in some functional and social activities, including therapy sessions, patients inadvertently hindered their progress. These behaviours were counter-productive to the aims of rehabilitation and were more likely to result in poorer outcomes, such as increased length of stay in hospital and discharge to alternative locations to patients’ own homes (Aditya et al., 2003). Progression in therapy sessions were not as successful as expected due to varying levels of motivation and adherence:

Nurse 4: “...some patients don’t or can’t want rehabilitation.”

Support Worker 3: “Patients expect staff to do things for them.”

Nurse 2: “Patients act differently with different staff...they do more with the physios than when they’re with us.”

Nurse 6: “Patients can change their behaviour in the evenings and weekends. The therapists aren’t around at these times...”

Therapist 2: “Motivation can change with time...it depends on patients and if they see themselves improving”; “patients misunderstand the reasons why their mobility is limited...”

Therapist 1: “The ward managers have recently had a meeting and it was decided that there is a ward focus on empowering patients”; “patients need to be motivated to participate with all staff to improve their independence...they need to recognise improvements.”

Nurse 5: “Motivation changes with time...it’s individual to each patient and if improvements can be seen”; “perhaps a culture of ease and a lack of physical activity is deemed acceptable by patients...”

#### **4.14.14 Understanding rehabilitation, roles and responsibilities**

Staff described a lack of understanding from the patients as to the roles and responsibilities of the various professionals providing their rehabilitation:

Support Worker 2: "Patients see the white polo shirt uniform of the physio and tend to try harder...they don't work as hard when they're walking with the nurses."

Nurse 1: "Patients don't always regard walking with nursing staff as 'therapy'."

Support Worker 1: "Nursing staff reinforce therapy by the fact of walking patients, especially at the weekends."

Patients frequently stated that they were unaware of which members of staff were involved in their falls management, although the majority believed it was the nursing staff, and only a few mentioned the physiotherapists:

Ron: "The nursing staff used the hoist...I was taken back to my room and was assessed by the doctor"; "the staff decided to get the machine...the doctors assessed me"; "falling is a problem to me, though less than when I'm at home as there are more staff around."

Joan: "Staff can advise patients on safer tasks and transfers...the nursing staff asked me to grab onto the rail."

David: "There's plenty of staff to help...walk with the help of staff...three staff were involved...the physio assessed my injury"; "the physios can help with exercises...to help improve my walking and get my balance better."

Margaret: "I'm not sure which staff helped me. Most staff are kind. I'm unsure of their names as they all look the same....the doctor assessed me."

Pat: "If the nurses don't keep a hold of me I might fall again"; "if the nurses were present I wouldn't have fallen....the nursing staff helped me but I can't remember who...the doctor reviewed my head and eyes"; "the physio gave me new slippers, which made my mobility better."

Similar to the ward staff's beliefs that patients often failed to know the purpose of their stay in hospital, patients were not always aware of the roles and responsibilities of staff. The patients' lack of knowledge was seen to be a negative influence on the daily interactions between ward staff and patients. An example of this was when staff reported patients being able to mobilise better with therapy staff than others, despite all staff - qualified and non-qualified - being responsible for improving patients' mobility:

Support Worker 2: "Some patients maybe just feel safer with the physios...they associate expertise with them, like when they're walking."

Staff acknowledged that patients needed to be educated on the aims of rehabilitation and the duties of health professionals, yet they did not always believe that it was their responsibility to do this:

Nurse 2: "Perhaps more explanation is required as to why certain changes are made"; "the admission information is not good enough...it doesn't always explain the true purpose of rehabilitation."

Nurse 6: "Patients need to be educated what rehabilitation means early on admission."

Nurse Practitioner 1: "The ward had done health promotion activities in the past."

Support Worker 5: "Staff try and explain the benefits of being on the ward."

Support Worker 4: "We still need to point out rehabilitation...what it means."

#### ***4.15 The personal impact on mobility following a fall***

Falling in hospital had made such an impact on Ron that he felt that he needed to relinquish his current means of walking (i.e. mobile with a Zimmer-frame and supervision from one member of staff) and adopt an entirely different mode of mobility instead:

Ron: "My frame is no longer suitable...I need a wheelchair."

He felt that his mobility had deteriorated to a point that surpassed alternative options, such as more supervision, physical assistance or a change in walking aid. Instead, Ron had suggested using a means of mobility whereby his ability to travel from one location to another was dependent either on propelling himself using his arms or being pushed in the wheelchair by another person. This was significantly different to how he mobilised at the time of the interview. The longer-term consequences of reduced mobility were significant, such as lower limb weakness, oedema, difficulties with functional transfers (e.g. when toileting or getting in/out of bed), reduced range of joint motion etc. Whether Ron recognised the possibilities of enduring such a long list of consequences was uncertain, but what was clear was his belief that he could no longer walk safely enough to be mobile.

This was an extreme example of the depth to which a fall had the potential to change a patient's life. It illustrated how one incident hindered the progress made by an individual towards achieving successful rehabilitation. In Ron's experience, opting to use a wheelchair when he could physically walk was a step backwards from the staff's point of view, as his comment was put forward for discussion in one of the CLGs:

Therapist 1: "If the patient could walk with only minimal assistance we would discourage the use of a wheelchair...that wouldn't help him to progress...it would only make him more reliant on other people and other things."

Nurse 3: "If a wheelchair was absolutely needed then fair enough, we would use one, but we would encourage him to walk as often as possible to help him keep what he's already got."

The repercussions of falling in hospital on a patient's beliefs and values could be significant, even to the point whereby a patient had to relinquish their own independence. The issue was marred with further signs of capitulation if a patient relinquished elements of their freedom (i.e. the ability to move without hindrance), especially if they were in a position to prevent this from happening.

Ron's experience highlighted the incongruence between the beliefs of the patients and the beliefs of the staff. For example, staff knew through their training, knowledge and experience that Ron could have improved his mobility:

Therapist 1: "Our aim is to progress mobility...we use a range of exercises and equipment to challenge patients."

Nurse 5: "If he could walk then that's what we'd do with him."

Support Worker 1: "We reinforce therapy by fact of walking patients."

It was their professional obligation to help Ron to not only achieve better mobility within a physical domain but also to encourage mobility at a deeper level e.g. using education and physical/verbal support to change Ron's beliefs and values. Otherwise, it was unlikely that Ron would have fully adhered to rehabilitation programs, particularly in the long-term (i.e. following discharge back home). This point was part of the reason why patients often "bounced back" into hospital after they had been discharged to a nursing home (Bauer et al., 2009; Aditya et al., 2003). The response from Ron reinforced the need for interventions to impact at both the physical and mental levels if rehabilitation was to be truly effective.

Interestingly, and rather paradoxically, Ron also regarded mobility as a way of exercise. A consequence of falling was the modification of factors pertaining to his walking, such as duration and frequency:

Ron: "I want to do more exercise...I'm walking less and less...more exercise can increase the strength in my legs...my legs will get worse if I stop using my walking frame."

David and - to a lesser extent, Pat - shared a similar belief about the benefits of walking. David associated the maintenance and progression of his mobility - and even progression - with the need to practice walking. He had a clear insight into the physical consequences of failing to mobilise on the ward as well as realising that the current condition of his legs was not normal for him i.e. David recognised that he had the potential to improve. He held the positive belief that walking was a necessary physical activity and was something that he wanted to retain:

David: "The weakness in my legs is from the polio...I know that my legs aren't as strong as they used to be...I need to keep on walking to make them stronger."

Pat: "If my strength and balance was better, future falls might be prevented."

#### ***4.15.1 Support required from staff***

Several of the participants reported changes in the level of assistance required from staff to be a major consequence of falling in hospital. This was reminiscent of an earlier point, that is, if the participants believed falling was a problem to them. Some of their previous responses suggested that falling was not necessarily a problem as staff were available to help. This same attitude was reflected in some of the patients' responses when asked about the consequences of a fall in hospital:

Joan: "Help is always there...staff can advise patients on safer tasks and transfers."

David: "There's plenty of staff to help...I walk with the help of staff...I take more care and ask for assistance from staff."

Ron: "More staff are present...I need more support from staff..."

Pat: "This makes me feel more secure. I prefer assistance...if the nurses were present I wouldn't have fallen."



Changes in the level of support required from ward staff highlighted a range of issues from both the patients and the staff. From the patients' responses, the increased reliance on staff appeared to be another coping strategy used to manage the physical, psychological and social consequences of falling. Feeling more assured and secure was important to patients and was necessary for the safe completion of functional tasks:

Pat: "I need more assistance with getting on and off the toilet...the nursing staff lifted me back up by my shoulders - I felt safe during this movement"; "I depend on more people...I'm unable to walk without supervision"; "I feel insecure...decreased independence."

However, some patients made comments that provided evidence of the negative aspects of the increased involvement of staff:

Pat: "I don't do anything...I'm not allowed to transfer myself."

David: "I need to listen more to staff."

Margaret: "I now walk with supervision because someone is in charge...I adhere more to commands given to me for my own good."

It was clear that, following a fall, a belief was either created or reinforced that meant patients' independent mobility was impaired. It was unclear as to what or who prompted this belief - to find a way forward in helping patients progress in their rehabilitation i.e. whether it was self-generated or influenced by ward staff. Nonetheless, the above responses suggested that the ward staff had inevitably reinforced this attitude.

#### ***4.16 Why patients fell***

Patients gave mixed responses as to the reasons why they believed they fell. Their comments indicated potential areas of blame, although this was addressed separately. These areas covered a wide-range of factors pertaining to within patients (i.e. 'intrinsic' factors) or external (or 'extrinsic') to them, and included physical, psychological, social and environmental issues (Oliver, 2007; NPSA, 2007; Lord et al., 2007). Two significant intrinsic factors detailed the primary physical and psychological reasons that underpinned the participants' beliefs as to why they fell.

#### **4.16.1 Physical weakness**

Decreased balance was the most prominent physical feature, accompanied by lower limb weakness and stiffness, and reduced peripheral sensation:

Ron: "Decreased balance...there is no reason given for this by staff"; "my feet have only 25% feeling...decreased movement in my legs - they're stiff and heavy."

Joan: "I fell because I have poor balance...all of my falls are due to this."

Margaret: "Lack of balance."

Pat: "A lack of balance...I was tired and weakened."

David: "The fall was caused by my weak legs, especially in my left leg, due to the polio."

The physical component formed the key part of many of the patients' experiences and was partly related to the mechanisms (causes) of the fall itself. Their beliefs have been reflected in the literature, with balance and lower limb weakness being frequently highlighted as leading risk factors of falling (Titler et al., 2011; ICSI, 2010; NPSA, 2007; Lord et al., 2007). This point added further support to show that patients had good insight into their falls, which was an issue often disputed by ward staff:

Nurse 4: "Patients often lack insight into the consequences of their actions. They don't always realise that what they do can result in a fall."

Support Worker 3: "Patients have poor insights into what they're actually capable of."

Nurse 5: "Patients often have more problems than they actually realise."

Doctor 1: "We all know patients can be daft"; "[the patient] was just being silly...they aren't always reliable."

Therapist 2: "Patients misunderstand the reasons why their mobility is limited..."

#### **4.16.2 Psychological factors**

Another intrinsic factor included the psychological aspects of why patients believed they fell. These were as equally revealing as the physical elements as they highlighted some deeply-rooted opinions which were related to other areas of the patients' experiences. Patients

described how they initially considered a task (e.g. strip washing, picking up and carrying personal belongings etc.) was within their capacity to perform safely, but then they fell at some point during their attempt:

Margaret: "I was overconfident that nothing would happen"; "it was my own stupidity. I've previously taken chances and been alright but I was unlucky this time."

Pat: "I was tired..."; "I didn't hold onto the bars because I was daft."

David: "I was too confident - showing off to myself."

Patients interpreted this outcome as being a failing in their own ability to be independent with daily tasks. Patients reported that these feelings of overconfidence meant that they had an inaccurate representation of exactly how much they could do for themselves safely. Rather than believing this to be an accident and therefore retaining a more optimistic attitude towards their level of functional ability, they interpreted the situation as an example of them having dangerous, wilful behaviour i.e. that the reason of why they fell came as a result of them making a mistake.

A significant psychological belief held by David was that he felt "old age" was a major (intrinsic) factor that partly underpinned the reasons why he fell. He explained that falling was a natural consequence of advanced age:

David: "I think old age has something to do with it - I'm 82. You get weaker as you get older don't you?"; "having polio when I was a child also affected things...made my legs weaker, and I can sometimes struggle with day-to-day tasks"; "walking is getting more difficult, but this could be to do with my age."

David did not appear to recognise that an alternative explanation could be that he was not as active as he once was, leading to greater disuse of his functional resources (Skelton, 2006). This belief could have led to self-imposed restrictions to David's physical and social activity. He certainly displayed feelings of capitulation to the degenerative consequences of growing older. David accepted that falling was directly associated with old age and was an inevitable outcome. Falling in hospital only reinforced his belief that he was vulnerable in any environment, whether or not health professionals - who he understood to be responsible for providing safe and effective rehabilitation - were present to help and prevent such an event from occurring.

#### **4.16.3 The involvement of staff**

One major extrinsic factor identified which categorised patients' responses as to why they believed they fell was the role the staff played in each incident. The views expressed by patients clearly reflected a common desire of wanting more assistance from staff. This included issues surrounding actual physical support as well as supervision/observation and verbal advice:

Ron: "I'm always falling backwards"; "the nurse wasn't behind me...they don't know the situation"; "the position of staff in relation to me - they couldn't support me."

Joan: "The nursing staff asked me to take the grab rail for support - this is when I lost balance."

Pat: "If the nursing staff were present I wouldn't have fallen."

By her response, Pat suggested that staff should have been available during the performance of this mobility task yet she did not attempt to ask for assistance prior to falling by using the nurse-call alarm. Rather than seeing her choice not to contact staff as a factor that could have contributed toward her fall, Pat placed more emphasis on the extrinsic factors as an explanation of why she fell.

Similar to Pat's experience, Joan also had negatively associated staff with her experience despite the prevalence of other important factors. It appeared that the staff had acted in the best interests of the patient, with safety being at the forefront of their input i.e. by asking her to take hold of the grab rail to help with her balance. Joan chose to highlight the apparent failings of the staff yet did not recognise the significance of other key aspects that were just as likely to contribute towards the fall including her own potential balance impairments.

In Ron's experience, the position of staff in relation to him was a central focus on which he commented on several times in his experience. He highlighted the issue of how much patients depended on staff to ensure their safety, particularly when they mobilised. Ron believed that staff should have taken the risk of physically intervening to prevent the fall from occurring, that is, by stopping him from falling over. [Staff had received manual handling training that stated they should never put themselves at risk, even if the patient was likely to sustain injury.] Ron appeared to show little regard for his own safety in his responses, and instead criticised the staff for not understanding his mobility needs,

including his risk of falling. He had a history of falling backwards yet felt the staff did not know this and therefore positioned themselves inappropriately to him.

Ron questioned whether there were problems in staff communication, such as handover procedures between nursing staff that were to blame for this apparent lack of knowledge of his situation. He acknowledged that his balance was a problem but stated that there was: “no reason for this given by the staff”. It was uncertain if the ward staff had actually explained the balance impairment and Ron had simply forgotten, especially if the explanation was complex, or whether no explanation had been given at all. In either case, Ron seemed adamant that staff had not explained the details of his balance problem, which only added further support to his belief that staff were at fault.

#### ***4.16.4 Alternative reasons for falling***

There were many reasons suggested by staff to explain why patients fell during their hospital stay. Many of these were directly linked to the mechanisms of falling:

Nurse 1: “There are not enough staff available for patient observations and supervision, especially after 6 o’clock”; “higher staffing levels are required for one-to-one care, mobility and transfers...”

Nurse 3: “The environment can be unpredictable and uncontrolled, so supervision is needed.”

Nurse 2: “We try and find out if patients can get themselves up but usually they can’t due to their frailty or poor mobility and so on”; “decreased confidence, poor mobility and increased frailty”; “many patients change their behaviour in the evening times.”

Nurse 5: “Perhaps a culture of ease and a lack of physical activity is deemed acceptable by patients...”; “patients often have more problems than they actually realise.”

Support Worker 3: “Patients have poor insights into what they’re actually capable of.”

Nurse 4: “Patients often lack insight into the consequences of their actions. They don’t always realise that what they do can result in a fall.”

These issues were frequently discussed in the collaborative learning groups, although it was rare for staff to admit fault as much of the blame was placed on the factors perceived to

be largely outside of the control of ward staff. Despite the lack of witnesses to many of the incidents staff were able to provide details surrounding what they perceived were the main causes of patients falling on the wards.

#### ***4.16.5 Insufficient staffing levels***

Patients occasionally described inadequate staffing levels that directly caused them to fall as they lacked the physical support required to safely perform a functional activity, such as walking. Staff partly agreed with this explanation as they regularly stated that more (nursing) staff were needed. Nurse 1 stated that: “there are not enough staff available for patient observations and supervision, especially after 6 o’clock”. This problem was accepted by ward staff who claimed that they had frequently challenged management by requesting more staff but were refused on the grounds of a lack of funding. The need for more staff was hindered further by some bank nurses who had apparently refused to work again on one of the wards due to poor working conditions:

Nurse 4: “The working conditions are so bad that we’ve had bank nurses who’ve worked on our ward before but have refused to come back...they don’t want to work here anymore.”

It was difficult to ascertain whether the patients who reported their falls to be a direct result of staffing issues were due to too few staff or staff unfamiliar with ward procedures and patients (e.g. bank nurses) as patients could rarely remember who was involved:

Pat: “The nursing staff helped me but I can’t remember.”

Margaret: “I’m not sure which staff helped me. Most staff are kind. I’m unsure of their names as they all look the same.”

The only issue that staff believed was responsible for incidents in terms of staff involvement was the lack of nursing staff at particular times and days, which they regarded as a fault of upper management. Therefore, staff were faced with a difficult situation that they believed was largely beyond their control, and as such, it was inevitable that incidents had occurred.

#### ***4.16.6 Changes in patient behaviour***

The issue of inappropriate staffing levels was one of the major issues to be discussed with staff. It was a point raised in several of the collaborative learning group sessions, primarily by the nursing and support staff. The issue was not as obvious as providing more staff, even though participants believed greater numbers of nursing and support workers was a necessary means of preventing in-patient falls. Rather, there were specific circumstances in which to employ these staff. Participants agreed that more staff were needed during the evenings (after 6pm) and at weekends:

Nurse 2: "Many patients change their behaviour in the evening times."

Nurse 1: "Cognitively impaired patients need more one-to-one care, especially at night and when toileting."

Support Worker 1: "Patients can become disorientated at night-time, especially when toileting"; "supervision and observations are important to prevent cognitively impaired patients from falling."

Nurse 4: "[Some staff] don't realise what happens after finishing time."

Nurse 3: "...physiotherapists sometimes don't realise what happens after six o'clock"; "patients act up after six o'clock, especially if they're cognitively impaired."

It was clear from the staff's responses that the approach to managing the high degree of patients with cognitive difficulties by primarily employing more staff was due to the complex needs of these patients:

Nurse 4: "Cognitively impaired patients require [observations] checks, bed and chair sensors, mattresses at the side of their beds, and regular supervision."

Nurse 1: "Higher staffing levels are required for one-to-one care, mobility and transfers - this is usually for cognitively impaired patients."

These assessments and interventions were more frequent and in-depth for these patients in comparison to those without mental health problems. Therefore, the belief that "cognitively impaired patients are a high priority on the ward" (Support Worker 3) was shared between many members of staff from both wards who advocated greater staffing levels as the means of addressing this issue.

#### **4.16.7 Assistance given by staff**

Many of the staff accepted that patients tended to prefer assistance with mobility and functional activities:

Nurse 5: "Perhaps a culture of ease and a lack of physical activity is deemed acceptable by patients and relatives."

Support Worker 3: "Patients can be too quick to ask for assistance...patients expect staff to do things for them."

This demonstrated a perceived feeling of patients relinquishing their autonomy in exchange for more support. This seemed true for patients with and without cognitive problems, although staff found it easier to accept the former rather than the latter, who they believed should "know better" (Nurse 3) due to them being cognitively intact .

Despite the belief held by staff that patients tended to ask for more support after a fall, the reasons why patients became more dependent were equally important. Margaret and David shared some of their feelings on this matter and provided a unique personal insight into why they relinquished some of the responsibility of their rehabilitation to ward staff:

Margaret: "I no longer want to take any chances...it's important to have someone in charge of my actions"; "attachment, respect...I adhere more to commands given to me for my own good."

David: "It was my own fault - I tried to do too much...I should've taken it easy."

Their words illustrated the shift in power that occurred between patients and staff following a fall. Margaret's use of the words "attachment" and "respect" showed how she perceived the status of staff as well as her willingness to remain close to them, that is, not to be detached or separate. Margaret believed that the "commands" given by the staff were beneficial and served to prevent any further falls. By allowing staff to have more control over her actions, Margaret felt that this was a way in which she could cope with (i.e. prevent) the prospect of another fall.

There was a perceived imbalance in terms of how much assistance staff offered to patients to develop their independence. This included advice (or instructions) as to what activities patients should or should not perform by themselves for reasons of safety. In the majority of cases, the most critical difference in the way staff interacted with patients with and without cognitive impairments were the ways in which they imposed control over mobility. Patients



with cognitive problems tended to be restricted in their daily function to a much greater extent than patients without cognitive difficulties.

#### **4.16.8 Secondary mechanisms of falling**

In addition to cognitive functioning, staffing levels, preferences in mobility and patient behaviour, there were other factors that contributed to the causes of falls. These included a reluctance to participate in rehabilitation, poor motivation, physical inactivity, ward policies and procedures, and patients' medical conditions:

Nurse 4: "Some patients don't or can't want rehabilitation."

Nurse 5: "Perhaps a culture of ease and a lack of physical activity is deemed acceptable by patients and relatives"; "ward policies, protocols and guidelines sometimes undermine rehabilitation by 'deskilling' patients."

Support Worker 3: "Patients expect staff to do things for them."

Nurse Practitioner 1: "Patients' medical conditions can impact on their rehabilitation...most of our patients have chronic problems that can stop them from progressing as much as they'd perhaps like to."

Support Worker 2: "Some patients will always walk independently and fall, so we need to decrease the risks."

These factors were interwoven into the various aspects of each faller's experience and affected them in different ways. They acted as secondary mechanisms by reinforcing the main causes of why patients fell. There was a connection between some of these factors even though they did not always directly result in a fall. For example, Nurse 4 stated that: "there are sometimes inappropriate admissions...some patients don't or can't want rehabilitation". This described a lack of alignment of the admissions process with the actual purpose of the wards. This was particularly important as the average length of stay on the wards was approximately two months, which was a considerable investment of time and NHS resources to provide an in-patient rehabilitation service.

#### **4.16.9 Motivation as part of rehabilitation**

The motivation to engage with therapy sessions was paramount to patients achieving success in their rehabilitation (ACSQHC, 2009; Pryor and O'Connell, 2008; Tutton, 2005). Most patients had mobility problems which placed them at higher risk of falling. If they refrained from fully adhering to interventions advocated by ward staff, such as balance retraining from the physiotherapists, their risk of falling could have been increased (Swanenburg et al., 2007; Steadman et al., 2003).

Many patients showed an understanding as to what constituted rehabilitation, and therefore, their purpose of being admitted onto the wards; staff believed otherwise. However, adherence to interventions, including falls prevention strategies, was directly influenced by each patient's motivation. Every patient showed varying degrees of motivation towards their rehabilitation, but differed from one another in terms of the context in which this motivation was realised. For example, many patients expressed the desire to improve their mobility yet some were less motivated than others to achieve this independently:

Margaret: "I no longer want to take any chances...I walk with supervision from the staff...it's important to have someone in charge of my actions."

Pat: "I'm unable to walk without supervision from staff"; "I can only walk with my frame now...I depend on more people"; "I don't do anything...I'm not allowed to transfer myself. This makes me feel more secure. I prefer assistance."

Joan: "My balance is improving with time on the ward."

Ron: "Losing my confidence was a big thing. I do want more exercise but it can be too dangerous"; "there have been changes in how much assistance I need...I tend to ask of the wheelchair now."

David: "I ask for more assistance from staff."

This one point was fundamentally significant as it explained the main reason why staff believed patients did not understand rehabilitation. The evidence from the patients' responses suggested they did know the purpose of the ward; patients just did not always wish to achieve their rehabilitation as independently as staff hoped they would or could, i.e. there was an incongruence in the perceptions of patients and staff in how to achieve rehabilitation.

Staff believed that motivation differed with each patient, and often changed with time. For example, in the early stages of admission, patients were usually at their lowest level of

functional capacity, hence the reason for them being admitted for rehabilitation. Therefore, educating patients was seen as a method of increasing motivation and understanding the service (Haines et al., 2006). This was perceived by staff to be an important initial step in supporting each patient's understanding of rehabilitation as well as providing a means of adjusting to the unfamiliarity of being in hospital:

Nurse 3: "We take the time to introduce ourselves to each patient...basically to help integrate them onto the ward."

Nurse 6: "Patients need to be educated what rehabilitation means early on admission."

Therapist 1: "Patients are given a leaflet which explains what the ward is all about and what to expect during their stay."

Nurse 2: "Perhaps more explanation is required as to why certain changes are made"; "the admission information is not good enough...it doesn't always explain the true purpose of rehabilitation."

Nurse Practitioner 1: "The ward had done health promotion activities in the past."

Support Worker 4: "We still need to point out rehabilitation...what it means."

#### **4.16.10 The ward environment**

The physical environment of the two rehabilitation wards was reported by several patients to be a critical part of why they believed they fell. Even though the issue was emphasised to a much greater extent by ward staff it was one of the occasions when patients associated their experience of falling - in this case, the reason why they fell - with an external factor:

Joan: "I'm more cautious with my foot placement due to the metal kerb"; "the nursing staff asked me to grab onto the bedrail but then I lost balance and fell between the two beds"; "the floor is uneven...the kerb on the floor is a tripping hazard."

Pat: "I fell behind the door whilst trying to open it"; "I just fell - I didn't hold onto the bars"; "I was getting off the toilet but didn't hold onto the bars."

David: "I opened the bedroom door into the corridor, lost my balance - somehow - before falling down. I slid down the wall to the floor." [David also stated that he had "no problems with the door...it's not too heavy or anything" which was perhaps another example of his stoical attitude.]

Margaret: "The rooms are too crowded with lots of apparatus about...chairs get in the way, especially my walking aid"; "I have had problems walking around my bedroom, especially when I go from the chair to the bed."

Mobilising around patients' own bedrooms often created a problem as it meant that one patient had to negotiate their fellow patient's bed area (two patients occupied each room) before they could reach their own. The nursing staff tried to pre-empt this situation by positioning patients according to their level of mobility, with the least mobile patient closest to the door, thus minimising manual handling and falls risks. However, considering that nearly all patients on the two rehabilitation wards had problems with their mobility, this was a difficult situation to manage effectively, as evidenced by Margaret's experience. As a result, Margaret clearly felt that there were problems with the lack of space to mobilise and believed this to be a key factor in her fall.

It was not only the patients who commented on the environmental aspects of falls prevention and management; staff also expressed their views on this issue. Support Worker 2 stated that: "the ward hasn't been properly assessed for rehab...there is a lack of space for patients to mobilise." This ward had significant historical circumstances that explained the distinct lack of space to perform certain activities. This was explained by Nurse 2:

"The ward was originally built for psychiatric patients who were meant to be fully ambulatory...that is why the ward has the long corridor with rooms either side...it was never supposed to be used for patients with mobility problems."

This layout was important as staff reported difficulties helping patients with mobility aids to safely manoeuvre themselves around the furniture:

Nurse 3: "We tend to place the less able patient on the other side of the room...but it can still be difficult at times to get patients safely back to bed, even if their mobility is good."

Some of these issues were resolved by installing tracking hoists in one of the bathrooms and several bedrooms. However, staff continued to report problems when they helped patients to toilet, once again due to a lack of space.

The majority of patients had mobility impairments and usually required some assistance with functional activities such as washing and dressing. The lack of space significantly

impacted on every element pertaining to the safety of these tasks. For example, attempting to mobilise around furniture that impeded the path of more than one person at a time meant that physical assistance/supervision of patients was not only more likely to be required, but also more likely to be hindered by such obstacles:

Margaret: "There is a lack of space"; "the rooms are too crowded with lots of apparatus about...chairs get in the way, especially my walking aid"; "I have had problems walking around my bedroom, especially when I go from the chair to the bed."

#### ***4.17 Taking responsibility for falling***

A supplementary aspect of understanding why patients believed they fell was exploring how patients applied blame i.e. who they believed was responsible. This provided greater insight into the issues which extended beyond the mechanics of falling. Determining who was to blame gave an indication as to the root cause of the problem, and therefore, offered a prediction of the patient's future success in achieving rehabilitation and preventing another fall.

##### ***4.17.1 Patients blaming themselves***

Contrary to what some patients reported about the role of staff in why they believed they fell, all of the patients essentially stated that it was their own fault:

Margaret: "This fall was stupid...I was overconfident that nothing would happen"; "it was my own stupidity - I was unlucky this time...if I had more sense...I'm not taking any chances now"; "sometimes it's left to chance"; "my balance was unsatisfactory...my voice was utterly stupid."

David: "It was my own fault - I tried to do too much...I should've taken it easy"; "I would still blame myself."

Ron: "I'm responsible because I lose my balance...there is no-one behind me when I walk."

Joan: "It would be me to blame if I fell again, due to my poor balance - all of my falls are due to this." [Joan also stated that the fall was: "just a one-off event...there's no-one to blame..." which contradicted her initial response.]

Pat: "I just stood up too quickly...it was my fault - I need to be more careful and take it slower."

It was evident that Ron placed a lot of onus on the medical staff to provide him with the necessary answers to his mobility problems, particularly with regards to his balance:

Ron: "I have poor balance, but there's no reason for this given by staff...the nurses don't know the situation...the doctors don't know so I have no chance of knowing...I'm not sure how to make my balance better if they don't know."

He did not know enough details about the factors that underpinned his fall which he considered to be important enough to help him to understand his experience in a more comprehensive way. It was uncertain whether Ron might have been told information and he had either misunderstood/forgotten or whether his response had highlighted problems with staff failing to communicate adequately e.g. explaining goals and therapeutic interventions. Ron could give a clear, subjective account of his fall, including how it impacted on him personally and described a range of post-fall consequences. However, he seemed at loss to explain some of the finer details which he not only wanted to know but which also impacted on his overall experience of falling.

#### ***4.17.2 Perceptions of self-efficacy***

One of the comments made by David initially appeared to be related to his need for greater assistance from staff, but after exploring his initial response more deeply it highlighted a slightly different issue. He felt that the fall was his own fault as he: "tried to do too much...I should have taken it easy". At first, it seemed as if he had implied that he wanted additional support from other people to make his life easier as he believed being too independent was not safe for him. However, when prompted to explain further, David demonstrated being aware of his own physical limitations when it came to mobilising and performing daily tasks, yet on this occasion he went slightly beyond these limits which caused him to fall:

David: "I was too confident...showing off to myself. It was my own fault. I tried to do too much - I should've taken it easy. I know from having polio what I can safely, but on this occasion I think I just did too much."

Thus, he could attribute such factors as fatigue, lower limb weakness and a lack of balance to when he fell, but these became secondary to his decision to “do too much”. Hence, David believed that he was solely responsible for falling, blaming his lack of foresight as being at the core of his fall.

#### ***4.18 Preventing falls***

By describing their own perceptions of falls prevention strategies, patients provided information that could be used by ward staff and the Trust itself as a way forward for service improvement. This was particularly important as many interventions described by patients impacted at a personal level e.g. empowering themselves to be more independently mobile. Every patient clearly stated that they believed that falling in hospital could be prevented. The reasons they gave covered both intrinsic and extrinsic dimensions, such as physical exercise, medication, ward environment, issues relating to staff, mobility, and other miscellaneous factors.

##### ***4.18.1 Exercise training***

Several patients believed that improving their balance and leg strength were paramount to preventing further falls:

Ron: “I want to do more exercise...I’m walking less and less...more exercise can increase the strength in my legs...my legs will get worse if I stop using my walking frame.”

David: “My legs are weak from having polio...I need to walk more to keep what strength I have left.”

Pat: “If my strength and balance were improved, future falls might be prevented.”

Joan: “Balance work and exercises can help prevent falling.”

This was not surprising as many of the participants defined their fall as a loss of balance and, when asked to explain why they fell, described feelings of postural instability. Participants often referred to leg strengthening and balance work as “exercise”, and felt that this was an activity that had more a specific purpose than functional tasks such as walking

and transfers. They did not state which health professional would be responsible for helping them with these types of exercise (e.g. the physiotherapists), as they tended to refer to the ward staff in a generic sense. In contrast, however, the staff remarked that patients could differentiate between members of staff and were often more prepared to engage with mobility tasks with the physiotherapists rather than with the nurses or support staff:

Support Worker 2: "Patients see the white polo shirt uniform of the physio and tend to try harder...they don't work as hard when they're walking with the nurses"; "some patients maybe just feel safer with the physios...they associate expertise with them, like when they're walking."

Support Worker 3: "Patients see the physios as helping them to walk and with exercises to strengthen legs and balance. They don't recognise us in the same way."

Nurse 4: "I think the patients see us in a more 'caring' role, whereas the therapists are here to progress rehabilitation."

Nurse 1: "Patients don't always regard walking with nursing staff as 'therapy'."

Support Worker 1: "Nursing staff reinforce therapy by the fact of walking patients, especially at the weekends."

Rehabilitation Assistant 1: "Rehab is progressive and individual, controlled by the physiotherapists."

The nursing staff felt that patients failed to appreciate that rehabilitation was a process implemented by the whole team. This was particularly relevant during the evenings and weekends when the nursing staff assumed more responsibility for patients as the therapy teams were not available. In doing so, these members of staff actively encouraged rehabilitation in lieu of the therapists, despite patients often not realising this.

Despite the collective agreement between patients that exercise was beneficial, Ron felt that too much exercise was "dangerous". He explained how his aim to get physically stronger needed to be balanced with the necessity to be mobile, but not excessively so:

Ron: "I walk less and less now"; "more exercise can prevent falls, although this can be dangerous...this can increase the strength in my legs."

Ron believed that the more he took advantage of his improved physical ability by engaging with physical activities, the more he experienced opportunities which could have resulted in a fall. For Ron, exercise could be counterproductive to safe progression, with improved



physical functioning potentially increasing risk. He was more concerned about achieving a balance between his rehabilitation and preventing falls.

#### ***4.18.2 Improving mobility to prevent falls***

Many patients believed that a greater use of walking aids and different footwear could prevent hospital falls. The use of appropriate walking aids and advice on more supportive footwear were some of the most common strategies implemented by health professionals working on the two wards. These items have also been highlighted in the literature to reduce the risk of falling (Vogt et al., 2010; ICSI, 2010; NPSA, 2007; Hignett and Masud, 2006).

The physiotherapists were primarily responsible for assessing a patient's mobility (including transfers) and providing patients with the most suitable walking aid, if required:

Nurse 6: "The physios assess and make mobility decisions...this is why these staff are there for."

Rehabilitation Assistant 2: "...to push their mobility in rehab sessions...to progress patients."

Rehabilitation Assistant 1: "Rehab is...controlled by the physiotherapists."

Therapist 1: "Our aim is to progress mobility...we use a range of exercises and equipment to challenge patients."

Support Worker 2: "Some patients maybe just feel safer with the physios...they associate expertise with them, like when they're walking."

#### ***4.18.3 Patient confidence***

The main psychological factor associated with preventing falls was confidence. This was partly related to patients taking greater care with functional activities, and was emphasised by Margaret: "I lack confidence. I was overconfident that nothing would happen. If I had more sense I could stop myself from falling again." Her attitude reflected the occasions when patients blamed themselves for their fall, although Margaret did refer to factors that could be potentially improved e.g. by practising transfers and planning tasks more

thoroughly beforehand. More importantly, Margaret highlighted a possible barrier towards the implementation of methods of falls prevention. Common strategies included strength and balance retraining, medication reviews and advice on footwear (Cameron et al., 2010; Vogt et al., 2010; ICSI, 2010; NPSA, 2007; Hignett and Masud, 2006), yet understanding the psychological aspects of experiencing a fall are equally as important (Carroll et al., 2010; Kloseck et al., 2008; Delbaere et al., 2004; Kong et al., 2002). Margaret's responses indicated that certain psychological elements needed to be considered to ensure a more comprehensive and holistic approach to falls prevention.

Even though Margaret could have been identified (by staff) to be struggling with bed transfers and was therefore at risk of falling during this activity, this did not necessarily mean that physical practice alone would resolve the problem. Her answers showed that confidence and cognitive planning directly influenced the safe completion of functional tasks. Thus, if interventions were to be truly successful, they had to include some form of recognition and positive reinforcement of the psychological and behavioural aspects of each individual patient's falls problem. This would have ideally targeted motivation, confidence and overall adherence to the prevention strategy. However, throughout the study there was little mention by the ward staff with regards to these areas of falls prevention which reinforced their focus on providing a physical means of management.

#### ***4.18.4 The role of staff in falls prevention***

Despite some of the patients stating ward staff were integral to the reasons why they fell, they also believed staff helped to prevent falls by assisting with their mobility. This was related to many of the comments and issues surrounding patients' greater dependence on staff following a fall. Generally, they felt that staff could prevent falls by making themselves more available to supervise patients when they mobilised around the ward:

Margaret: "I walk with supervision from the staff, especially when I'm turning around...it's important to have someone in charge of my actions."

Joan: "Help is always there...staff can advise patients on safer tasks and transfers."

David: "There's plenty of staff to help...I walk with the help of staff...I take more care and ask for assistance from staff."

Ron: "More staff are present...I need more support from staff..."

Pat: "I prefer assistance...if the nurses were present I wouldn't have fallen."

The evidence from cycle two highlighted a different aspect of the relationship between falls prevention and the roles of staff. From one perspective, ward staff collectively agreed that they were all working towards the same goal of providing rehabilitation, encapsulated by Therapist 1's statement: "there is a ward focus on empowering patients". However, differences existed that partly contributed towards the confusion and misunderstanding expressed by patients. This dissonance encompassed issues related to conflict, status, ineffective team-working, and a lack of joint-working (interprofessional) practices that inevitably impacted on the service provided to patients. The opinions expressed by all participants demonstrated that the staff charged with the care and safety of patients were not working together as effectively as they could and as they initially believed. In particular, the evidence highlighted underlying faults within team-working that clearly showed the implementation of falls prevention strategies and rehabilitation as a whole had not been completely achieved.

There was a clear distinction held between different health professionals of the concepts of care and rehabilitation which illustrated the areas of conflict between the nursing staff and therapists. Each set of professionals had particular clinical roles, responsibilities and areas of focus - the specifics of which tended to be respected by each other. However, the tasks which occasionally overlapped appeared to cause the most problems. These included methods for mobilising and transferring patients, including manual handling techniques and the use of equipment. Staff explained that levels of experience, availability of resources and "...different functional priorities" (Nurse 1) were critical factors in decision-making which were either congruent with other professionals' advice or in disagreement.

#### ***4.18.5 Shared learning and training opportunities***

When staff were asked if they had received any recent formal training or education on falls prevention, the collective response was that they hadn't:

Support Worker 1: "We haven't received any training on falls prevention...this would be quite useful."

Nurse 2: "We tend to do lots of in-service training...particularly with students"; "there's been no formal training...this could be useful if pitched at the right level...to qualified and non-qualified staff."

Nurse 1: "A while back we did some training on how to fill-in these [incident report] forms"; "much of what we do is what we learned at university or college"; "maybe there's a training need for support staff to fill-in the risk assessment tool."

Nurse 6: "We don't have any time to do falls training...some people don't like doing courses"; "we just know what to do."

Therapist 1: "We are trained to teach patients how to get up from the floor safely - we do this with lots of patients because many of them don't know what the best way is to get up after a fall."

Support Worker 3: "There is a need for further manual handling training with the physios...to get the best out of patients...balancing care and rehab...this can lead to more effective mobility."

Support Worker 2: "Training in falls prevention would be useful, especially if specific to patients...even if just to provide handy hints."

Other training included joint sessions with the physiotherapists, who taught more effective manual handling techniques, although these tended to be "limited to student nurses only" (Nurse 3). The physiotherapist and several support workers showed genuine interest in future collaborative sessions. Support staff stated they occasionally worked alongside the rehabilitation assistants, who worked under the direction of the ward therapists. These sessions usually covered the continuation of basic exercise programs and therapeutic handling skills. However, there were strong opinions expressed by the one of the participants related to these sessions:

Support Worker 2: "I did one session with a rehab assistant. They were showing me how to do some exercises for a patient that the physio had taught them. They treated me as if I didn't understand how to do the exercises, which were actually quite simple...it was rather belittling"; "the rehab assistants behave as if they are better than us, even though they're the same band level."

There was a lack of recognition and appreciation of other multidisciplinary team members' skills-mix between participants, with undertones of hierarchy between different professionals, even among the 'non-qualified' staff who were all employed in a supporting role (e.g. therapy assistants and healthcare/support workers). The need to be flexible with

one's clinical skills was expressed by Nurse 2 who stated: "there are often expectations to be multi-skilled...but this can prevent falls anyway."

There was a common belief between several of the nursing and support staff who regarded themselves to have the necessary knowledge and experience to manage falls, despite having very little actual falls prevention training:

Nurse 4: "We know how to stop falls from happening through our interventions...these are carried out each day by staff working at grass roots level."

Nurse 1: "We instinctually know who will be at risk from either meeting them...eyeballing the patient...or from the admission letter";

Nurse 6: "Referrals to the community [falls] team aren't required...staff have the training already, especially from the falls consultant."

Support Worker 3: "Advice is not needed from any specialist team...the falls and syncope consultant is already here."

Therapist 2: "All that could be done to prevent patients from falling is being done."

The reluctance to participate in training was not shared by all members of staff. For example, participants from one ward expressed an interest in undertaking falls prevention training as "...this would be quite useful" (Support Worker 1).

#### ***4.18.6 The impact of team-working on falls prevention***

Significant factors that contributed to ineffective team-working were frequently highlighted by staff. Some members of staff, particularly the nurses, had stronger views about certain ward issues than other professionals, and this was evident when therapy and medical staff were occasionally unable to attend some of the collaborative learning group sessions. On these occasions, the nursing staff were more open with their views and voiced strong opinions of how they perceived team-working:

Support Worker 2: "[The rehabilitation assistant] treated me as if I didn't understand how to do the exercises...it was rather belittling"; "the rehab assistants behave as if they are better than us, even though they're the same band level"; "there is a need...to improve mutual respect between professionals."

Support Worker 4: "The rehab assistants have sometimes acted above their own banding..."

Nurse 6: "...the PCT needs to shift the power back to the nursing staff"; "[the physiotherapists] are limited in rehab...they're only concerned with mobility, whereas the nursing staff see the bigger picture"; "the ward should be nurse-led, like it was supposed to be"; "some therapy staff don't recognise that patients react differently"; "there's a lack of flexibility between staff, such as with manual handling instructions"; "the nursing staff are at the bottom...undervalued - especially at the MDT meetings...therapy staff feel that they are better than nurses"; "we just smile and nod."

Nurse 2: "The consultants are only here twice a week, so they don't know the patients' capabilities"; "different staff have different levels of experience which influences their professional outlook."

Nurse 4: "[Some staff] don't realise what happens after finishing time"; "the therapists expect the nursing staff to adhere to their instructions...there's definitely a hierarchy on the ward."

Nurse 3: "The nursing staff are involved all the time...other staff aren't"; "some therapy staff make referrals without consulting the team...this affects working relationships...makes us feel like it's us versus them"; "there are few opportunities for different staff to work and learn together...this is mainly for the students"; "the nursing staff are involved all the time...physiotherapists sometimes don't realise what happens after 6 o'clock."

There was a distinct feeling of separate professional identities, each with their own status and outlook on rehabilitation and falls prevention. The nursing and support staff appeared to be closely involved with one another, with the latter adopting similar roles and responsibilities as the nurses. The reasons for this were borne out of necessity, as participants knew that support staff were cheaper to employ than qualified nurses and could therefore fulfil certain gaps in the service that did not necessarily require a nurse (Wells et al., 2010):

Support Worker 5: "Helping patients to walk to the toilet."

Nurse 4: "Assisting patients at mealtimes...those with feeding difficulties."

Nurse 5: "Getting patients in and out of bed."

Nurse 1: "We often have staff shortages during the summer holiday season...support staff are really important with assisting with nursing duties."

The type and frequency of tasks related to patient care, performed by nursing and support staff, was a major reason why these two groups of professions felt more involved with each other. Furthermore, participants described feeling more engaged with patients in

comparison to the medical or therapy staff. The quantity of patient contact and the duties involved therein were seen to define their importance and status on the ward. These were two significant factors that partly explained conflict and inequality between ward staff. Even though there was a general appreciation of the input provided by the therapy teams, the nursing staff believed that they were the main carers for patients and therefore the input provided by other disciplines was of secondary importance:

Nurse 3: "The nursing staff are involved all the time...physiotherapists sometimes don't realise what happens after 6 o'clock."

Nurse 6: "...the PCT needs to shift the power back to the nursing staff"; "[the physiotherapists] are limited in rehab...they're only concerned with mobility, whereas the nursing staff see the bigger picture."

Nurse 2: "The consultants are only here twice a week, so they don't know the patients' capabilities."

#### **4.18.7 Goal-planning**

Goal-planning activities have been found to be an important process to improve the relationships between patients and professionals (ACSQHC, 2009; Gibb et al., 2002) as well as partly demonstrating collaborative team-working (Sheehan et al., 2007). To identify factors and set goals that directly related to the effective functioning of patients and staff was an important strategy in terms of preventing falls and improving rehabilitation (Healey, 2010; ACSQHC, 2009; Kannus et al., 2006; Healey et al., 2004). However, working with patients, relatives and work colleagues to set specific rehabilitation goals was reported to be an activity inconsistently engaged in by ward staff. As Therapist 1 stated: "the patients' own rehab goals and the staff's clinical goals are rarely discussed together".

The therapists were considered to be particularly at fault with the development of mutual respect, as Nurse 6 regarded them to be: "limited in rehab...they're only concerned with mobility, whereas the nursing staff see the bigger picture". Despite this, several members of staff agreed that joint-working sessions would be beneficial:

Nurse 6: "...very useful to staff - they would encourage more of a team approach, although it needs the right staff with the right level of respect."

Support Worker 5: "...rehab is definitely affected if [joint-working sessions] don't happen...it can mean poor rehab for patients and might lead to conflict between staff."

Support Worker 2: "There is a need...to improve mutual respect between professionals."

Nurse 2: "Joint-working sessions would be very useful....to improve a team approach."

Support Worker 1: "More joint-working...to get a mutual two-way approach."

#### **4.18.8 Weekly team meetings**

Weekly multidisciplinary team (MDT) meetings provided staff with an opportunity to come together and to discuss issues relating to patient care and other ward-based matters (Brajtman et al., 2008; Sheehan et al., 2007; Sorrell-Jones, 1997; Bennett-Emslie and McIntosh, 1995). Despite the many benefits of professionals communicating with each other staff described having more of a negative experience of these meetings:

Nurse 1: "The MDT is consultant-led...there are differences between consultants."

Nurse 5: "The MDT is more medical and less social...the medics always lead these. The sessions are influenced by profession, for example, it will have more of a therapy dominance if the physio is there..."

Nurse 2: "The effectiveness of MDT meetings depend on consultants...they have the final say."

Support Worker 3: "The support staff are not invited to weekly team meetings."

Nurse 6: "The consultants are more approachable now, but they still have the belief that they have the final say."

Nurse 4: "The ward adheres to rehabilitation, but the final decision still rests with the consultant, who only comes onto the ward once or twice weekly."

With problems existing within communication and professional status, daily interactions and nursing handovers were regarded to be better methods of cascading information, although these were still not without problems:

Nurse 2: "There is frequent communication between staff, although the handover is still the main means...it can exclude the medical staff, and can miss some information out"; "we discuss falls risks with each other...this can be in the corridor on the ward."



Nurse 3: "There are changes at night-time...with mobility. The daytime staff aren't always aware...we need better handovers."

Nurse 5: "There is little time for staff to come together except for the MDT meeting."

#### **4.18.9 Organisational Issues**

Numerous concerns were raised by staff regarding organisational matters which had a direct impact on falls prevention and rehabilitation. The first was partly related to the overall status and level of responsibility held by the nursing staff who clearly felt that they had more of a right to decide upon matters which concerned patient care and service provision. There was an historical belief amongst several of the nursing staff that: "the ward should be nurse-led, like it was supposed to be" (Nurse 6). They felt as though a shift had occurred, either at local or national level, which had altered some of their traditional roles and responsibilities. For example, they believed that upper NHS management did not fully understand the problems related to falls prevention and the general provision of rehabilitation to patients:

Nurse 6: "There is definitely a lack of support from higher managers...the PCT needs to shift the power back to the nursing staff"; "the managers need to get down from their ivory towers and come see the wards."

Support Worker 3: "The managers don't know what's happening on the wards - they need to spend some time down here to really see what it's like."

Nurse 4: "Ideas usually come to a dead-end...we aren't encouraged to be innovative."

Nurse 5: "We aren't involved in making decisions - our opinions don't seem to count"; "innovation and ideas are not always recognised...things usually come to a dead-end"; "we're still unable to challenge ward policy or informal agreements...it's the ward first and patients second."

Nurse 2: "The ward sister disseminates any changes...we can't influence decisions"; "there seems to be one-way communication...it's hierarchical."

Nurse 3: "Innovation is not always recognised...it's not always dismissed but not always discussed either."

Nurse 6's comment: "the PCT needs to shift the power back to the nursing staff", was a powerful statement that encapsulated the nursing staff's belief that they could provide a

better service if only they were given greater control over daily processes. These processes were defined as: “Trust policies, procedures and guidelines” that often hindered rehabilitation by “de-skilling” patients in how to self-manage their health.

Staff felt restricted in improving services, for example, if they had ideas that they felt would benefit the ward, such as “using a communication book” (Nurse 4) to enhance information shared between each other, they felt that the current ward climate of staff feeling disempowered could not successfully cultivate ideas for change and service improvement.

#### ***4.18.10 Environmental factors***

Some of the patients’ responses suggested the role of modifications to the ward environment so as to improve mobility and reduce the risk of falling. Common examples offered by patients included:

Margaret: “The rooms are too crowded with lots of apparatus about...chairs get in the way, especially my walking aid”; “the height of the bed is important”; “there aren’t any grab rails, which would be useful”; “I’m unsure if I had more space, but it might help”; “there’s a lack of space.”

Joan: “The floor is uneven...the kerb on the floor is a tripping hazard”; “furniture in the bedrooms and dining room can still cause accidents.”

Ron: “If a bed lever was fitted to my bed...like the one I have at home.”

Pat: “Lowering the height of the beds - mine is too high.”

Contrary to the above responses, David believed that if he was going to fall then he would, regardless of environmental factors. His attitude was typical of the fatalistic opinions that some of the patients shared, despite all patients believing that falls could be prevented. In this circumstance, David thought that falling in hospital was preventable, but only by methods other than the modification of the ward environment.

#### ***4.19 Descriptive data***

There were opportunities during cycle one to collect specific, factual details surrounding each patient's fall so as to complement the qualitative experiences shared by patients. The details of this data are presented in the table overleaf. [The reason why this table has been presented in the main text rather than as an appendix is to highlight how significant falling was to these patients. Objective elements of their falls were as important as their subjective experiences, and therefore should not be detached from the main data.]

<div>Item of Data:</div> <div>Patient:</div>	Number of Falls	Day of Fall(s)	Actual Time of Fall(s)	Location of Fall(s)
Joan	1	Monday	08.35	Bedroom
Pat	2	Friday Wednesday	14:05 20.45	Bedroom Toilet
David	1	Tuesday	07.20	Bedroom
Margaret	1	Sunday	02.15	Bedroom
Ron	2	Monday Thursday	09.05 16.45	Day/dining room Dining room

Table 4.19 Patients' falls data

#### **4.19.1 Number of falls**

The majority of patients fell only once; only Pat and Ron reported a second fall during the course of the study. When falling was considered in relation to overall length of stay, each patient fell approximately halfway through the duration of their in-patient stay. Recurrent fallers fell again soon after their first fall. The timing was relevant as it showed the point at which a patient was potentially at highest risk of falling, particularly in terms of their rehabilitation. For example, if patients fell early on admission it could be attributed to a range of factors:

Nurse 2: "Decreased confidence, decreased mobility and increased frailty...are some of the main reasons why patients are admitted for rehab."

Nurse Practitioner: "Patients' medical status can change, although they should be medically stable as this is a rehabilitation ward."

Nurse 3: "When patients are new to the ward they tend to be unsure of where things are and who does what."

Nurse 2: "Patients can be very confused when they come onto the ward."

Therapist 1: "It takes time to understand each patient's capabilities...the therapy sessions provide a chance for us to explore what they can do."

Support Worker 2: "Because we don't know the patients very well when they're newly admitted, we always err on the side of caution."

Generally, patients at the halfway point of their rehabilitation had progressed significantly since their admission and tended to be either close to being independent (with or without supervision during physical tasks) or required minimal to moderate assistance from staff.

#### **4.19.2 Day and time of fall**

When asked to state what time and which day patients fell, only Margaret fell at the weekend and the remaining patients fell throughout the week. The timings were all slightly different, although several falls occurred around 8-9 o'clock in the morning. This was the only trend that emerged from the data and could be partly explained by a comment made by David when he stated that he fell during "change over time". This was a critical point during every working day when the night nursing team finished their shift and handed over to the

day staff. It was also a time when patients began waking up and preparing for breakfast time. Clearly, this was a busy time when staffing resources were challenged by the needs of patients who required more support than usual e.g. being assisted out of bed, help with dressing, bathing, feeding, washing and toileting etc. Most of the therapy team did not start until soon after this peak time, leaving the nursing and support staff to fulfil all rehabilitation duties. David's comment provided further evidence of how staff were integral to patients' experiences of falling, and how patients believed they were responsible for preventing such incidents.

Similarly, another peak time was between 4.30-5.30pm. This was when the therapists and some support staff tended to finish work, and the evening nursing team began. Once again, a staff handover occurred during this period as did another meal for the patients. Ron fell during this evening time frame which indicated that the mornings and night-times were when most problems arose.

#### ***4.19.3 Location of fall***

The final aspect of the descriptive data that was discussed with patients was the location of each fall. The data showed that the majority of patients fell in their own bedroom, either at the door or around the bed areas. This was not surprising given the lack of space reported by staff working on one of the wards. The dining area was the location of two patients' falls and Ron fell next to the toilet. The details of these falls have previously been described and so will not be reiterated here. However, the key feature of these findings was that they demonstrated how a fall was a common consequence of problems that arose in the interaction between the individual, the task and the environment. These three components have been shown to be critical for the maintenance of postural control (Shumway-Cook and Woollacott, 2007). David's experience highlighted how a loss of balance resulted in him (individual) falling after mobilising (task) around his room (environment) independently without his usual walking aid.

Understanding the environment, including location and time, could have essentially made the difference between David performing the same task again safely or taking a risk, with or without the assistance of staff or equipment. For example, a person would have a lower risk of falling if they chose to walk independently around their bedroom during daylight hours

with an appropriate mobility aid in comparison to performing the same action late at night without the aid. Thus, having considered and/or modified the specific elements of David's situation, the interaction would have inevitably changed between certain factors, and could have therefore increased or decreased the risk of him falling (Shumway-Cook and Woollacott, 2007; Horak, 2006).

#### ***4.20 Implications for practice - feedback sessions with staff***

To provide closure to the study and further evaluation of the results, feedback sessions were conducted with staff from the two rehabilitation wards. It was stated at the beginning of cycle two that staff were accountable for their input as there was a strong element of professional responsibility. Staff were advised to conduct themselves with respect to their own professional guidelines, including training, experience and standards of practice. Therefore, the aim was not necessarily to verify statements or opinions because these were made at the time study within the context of each collaborative learning group (CLG) session. Rather, the feedback sessions provided staff with an opportunity to elaborate and clarify rather than change issues that were explored in the main data collection phase, thus improving the rigour and trustworthiness of the research.

Each feedback session was divided into two parts: in the first part, staff were asked to comment on key findings from the study; the second part was an opportunity for staff to discuss recent changes to the service made since the cessation of the study as well as to provide ideas to potentially improve the service i.e. implications for practice.

Seven areas of discussion were chosen to aid in the direction of the feedback sessions: falls, rehabilitation, mobility, psycho-social issues, team-working, environmental factors, and organisational matters. Specific themes were put forward to participants, and the remainder of this chapter will briefly outline the key findings from these seven areas.

##### ***4.20.1 Falls prevention and management***

Staff reinforced the point that intuition and experience were the primary means they used to identify patients at risk of falling and to manage a fall once it had happened. There had

been no strict 'academic' training or education with regards to falls prevention, although staff believed this was implied through their own professional assessments and interventions. These were supported with clinical documentation, such as ward protocols, incident report forms and past experiences, including a recent fall which had legal ramifications.

Nurse 4: "We haven't received any specific training on falls prevention...although this is often implied through our assessments and treatment ideas...the interventions used to prevent falls."

Physiotherapist 1: "Clinical documentation supports what we do...it evidences our interventions with patients."

Support Worker 3: "Much of what we do is common sense...past experiences help us to know what's best for patient care."

One of the most controversial points raised in the CLGs was the way in which staff considered some patients' behaviours and choices to be unsafe. Staff responded to this issue as they felt the need to defend some of the comments read to them by fervently disputing their accuracy. How patients behaved following a fall was also linked with this issue:

Doctor 1: "Patients aren't daft...whoever said that has clearly got the wrong attitude towards patient care." [The original comment was actually made by this member of staff, although they appeared not to realise this.]

Nurse 1: "Patients don't always learn after a fall...such as recurrent fallers...especially if they're cognitively impaired."

#### **4.20.2 Rehabilitation**

The physiotherapist wanted to know at which stage of the patients' rehabilitation were interviews performed in cycle one. (Patients fell approximately halfway through their stay in hospital and were interviewed shortly thereafter.) She made the point that the patients' responses would have been influenced by their state of functioning at the time of being interviewed. For example, the physiotherapist believed that patients were: "more vulnerable...with low confidence and decreased functional ability" at the beginning of their rehabilitation, whereas they would have had "greater independence with mobility" towards the end. Thus, their beliefs and attitudes would have reflected how they felt with regards to



their functioning, and was arguably a significant influence to the data collected. This was a point also raised in the Discussion chapter.

The nursing and support staff agreed that patients still did not regard “therapy” with themselves:

Nurse 4: “Patients still see the physios and OTs as being the main providers of rehabilitation...we’re just there to care for them.”

Support Worker 2: “Patients see the uniforms...and they already know who does what”; “the therapists help with walking and exercises...the nurses have more of a ‘caring’ role.”

One of the fundamental themes to emerge from the patients’ experiences and the CLGs was how patients felt restricted in performing certain functional activities independently, and how they believed they needed more assistance from staff. This was explained in terms of a “gap” between the patients’ level of understanding and the practicalities of managing risk (i.e. the safety measures implemented by staff to prevent falls). The responses of the staff did not reflect the significance of this issue as their replies were limited. They reiterated the need to ensure patient safety but did not comment on whether a compromise could be achievable:

Nurse 2: “It’s a shame the patients felt like that...but we do need to focus on safety with falls prevention strategies.”

Physiotherapist 1: “Patients need to have a safe experience when they’re in hospital....although perhaps further explanation is required to educate patients on the benefits of rehabilitation.”

The inclusion of goal-planning as an integral element of rehabilitation was a key issue discussed with staff in the CLGs. This was brought into the feedback sessions, primarily to determine whether any changes had occurred:

Physiotherapist 1: “Staff are talking more about goal-planning, but clinical goals are still separate.”

Nurse 4: “There’s not always enough staff to do goal-planning with patients...two different professionals are required, although it’s usually one nurse and the physio that do it.”

Nurse 1: "Some patients are unable to participate in goal-planning due to mental health issues"; "a recent audit found that 11 out of 18 patients on the ward had cognitive impairment...we're supposed to be a rehab ward."

Particular barriers to goal-planning still existed on the wards, and in fact had worsened due to an increase in cognitively impaired patients who were deemed not to have an appropriate level of mental capacity to participate. Staffing levels was also a major obstacle in ensuring consistent and regular goal-planning sessions.

#### **4.20.3 Mobility**

The changes made to mobility following a fall formed an important aspect of rehabilitation and warranted a brief discussion with ward staff. The main context of mobility emphasised by staff were behavioural and habitual choices made by patients when they walked. These were regarded to be a barrier at times to them achieving rehabilitation goals:

Physiotherapist 1: "It's important patients understand why changes have been made...we would simply remind patients them."

Nurse 1: "Some patients walk with certain aids out of habit. It's difficult to change this if we need to...for their safety."

#### **4.20.4 Psycho-social issues**

The extent to which patients had an accurate insight into their own problems was a key issue for ward staff, particularly in relation to discharge planning (e.g. when patients went back to their own home). Staff felt that patients did not show they understood the differences between hospital and home environments in terms of their functional capabilities:

Nurse 1: "They often say that they'll be alright at home even though they cannot do something when they're in hospital."

Support Worker 1: "Patients either don't or can't appreciate the fact that when they get home they're going to struggle just the same as they did when they were in hospital...they think they'll be able to do it when they get home, which just isn't the case."

Staff discussed the impact that cognitive functioning had on rehabilitation and mobility, particular when changes were made for either their own safety or to progress patients' abilities. Being able to retain information was considered to be critical if patients wanted to improve, yet this was a major obstacle with patients with mental health problems:

Nurse 3: "Having a high MMSE doesn't mean that a patient is cognitively intact...some patients might still have problems retaining information."

Nurse 1: "We have a high proportion of patients with cognitive problems...it places an extra demand on existing staff to help these types of patients."

Support Worker 2: "It's difficult to manage these patients...it's hard to give rehabilitation to people who don't quite understand the reasons why they're in hospital."

Staff offered these comments in response to some of the findings related to cognitively impaired patients, such as how cognitively intact patients (e.g. those who participated in this study) were treated in the same way as those patients with moderate-severe mental health difficulties, particularly in terms of staff assuming greater control over their actions.

#### ***4.20.5 Problems with team-working***

Examples of ineffective team-working, highlighted during the CLGs, caused reasonable concern in the feedback sessions. However, this concern did not take the form of staff defending their actions in view of their professional identities, but rather they seemed to accept that this was an inevitable part of ward culture. For example, when comments regarding the nursing staff feeling undervalued were discussed with participants, the physiotherapist jokingly asked the nursing and support staff why they made these comments (there was no reply from these members of staff). There was no argument to dispute the feeling of inequalities between certain professionals on the wards. Participants appeared to accept that this was typical of ward life, and an issue they neither challenged nor necessarily agreed with:

Physiotherapist 1: "I think this is just part of the ward culture...I don't agree with it...it just seems to be the way it is"; "there has always been differences between members of staff, although we try and remain as equals."

The dissemination of information was still regarded to be an issue, with discrepancies remaining in the staff handovers and other means of documentation. The support staff reported they were now invited to weekly team meetings, although attendance was hindered by the need to focus on clinical tasks:

Support worker 3: "We rarely go to the meetings because we have so much to do...we're usually not free to go, though at least we have that option now."

Nurse 4: "There will always be one of the 'qualifieds' [trained nurses] at the MDT...it's good having a support worker there, but that would mean having one less on the ward."

#### **4.20.6 Environmental factors**

The ward environment was still a major issue for one of the wards, with staff having reported several outstanding problems. The lack of space to manoeuvre hoists and other equipment around patients' bedrooms continued to be a major manual handling issue. The overhead tracking hoist was poorly positioned in one bathing and toileting area, despite this being a recent reconstruction to the ward. The ability for patients to access nurse-call alarms was still a problem as there was only one alarm in the day room. However, staff reported leaving patients with access to their buzzer when they were alone in their bedroom, even if this meant it was within easy walking distance.

Support Worker 1: "There's only one buzzer in the day room...we leave patients with their buzzer...or at least within easy walking range."

Nurse 1: "There's still not enough space...to manoeuvre hoists around patients' beds."

Nurse 4: "The overhead tracking hoist is poorly positioned in the toilet...it causes problems when transferring patients in and out of the bath."

Recent renovations to one of the wards did not seem to solve the issues staff had previously raised within their clinical environment. Staff found this disappointing as they believed it could have formed part of an overall strategy towards reducing in-patient falls. The staff knew the ward was an unpredictable environment that posed different hazards to patients compared to patients' own homes, yet they believed their involvement in helping to change the ward was ignored by managers and architects:

Nurse 3: "They left us out of the planning meetings...it would have been useful if they actually asked us what we thought would have helped the ward and the patients."

Nurse 1: "The recent changes have created new problems...they installed an oversize sink in one of the toilets which decreased the amount of space...especially for one of the overweight patients."

Support Worker 1: "It was unsafe trying to help that [overweight] patient off the toilet...the sink got in the way...this could've been avoided if they only asked the ward staff what we thought."

Nurse 4: "We were left out of the ward renovations...the architects came onto the ward but weren't interested in our views"; "they said that they would get back to us but they never do."

The staff explained how they used a problem-solving approach to manage environmental issues, particularly the lack of space. They remained flexible in their management of patients and accepted that the wards would inevitably create challenges and hazards:

Nurse 4: "We tend to work around the problems...we create the change by working around the obstacles...instead of physically changing the ward."

Support Worker 3: "It's just something we have to deal with...we take it as it comes...as long as patients are safe - that's our biggest priority."

#### **4.20.7 Organisational matters**

At the top of the agenda of matters concerning the management of the wards was staffing levels. This formed one of the biggest issues in the CLGs as employing more staff was seen to be a significant means of preventing falls by increasing patient supervision. It remained an issue for debate in the feedback sessions as staff continued to unanimously agree that there were inadequate staffing levels on the wards:

Nurse 4: "There's still not enough staff...there's been times when staff have been off ill or been on holiday, and we've had so many patients with cognitive problems to look after...it's been a strain on us."

Support Worker 3: "We help the nurses with the patients as much as we can but there's simply not enough staff to cope with the patients' demands."

Nurse 1: "There was one point...last summer...when the majority of the patients had some degree of cognitive impairment...we need more staff to manage these sorts of situations."

The attendees reiterated that paperwork was still an area of concern among staff. The physiotherapist recognised that there was a need for clinical documentation to provide evidence that certain procedures and precautions had been performed i.e. it was a way of proving professional competencies. However, the therapist still agreed with the nursing staff that there was excessive paperwork that diverted staff away from other, more pressing clinical duties:

Physiotherapist 1: "The paperwork is important as it demonstrates how clinical procedures have been fulfilled"; "it still takes staff away from more pressing duties."

Nurse 1: "There is still too much paperwork...too many forms to fill-in...it takes us away from more important things."

Nurse 3: "It takes us away from patients...we cannot give patients the care they deserve because we're stuck filling out all the forms and assessment sheets."

Despite several members of the nursing staff being present at the feedback sessions, very little comment was expressed when the issue of the ward being "nurse-led" was raised with participants. The only comment that was made was directed towards the upper NHS managers who were still regarded to lack awareness of ward-related problems. Staff felt that they needed to take more control over the management of the wards in lieu of what they believed were ineffective decisions made by the managers, hence the preference for the ward to be led by the most 'dominant' profession (i.e. the nursing staff):

Nurse 4: "The managers still aren't aware of daily life and issues on the wards...they need to spend more time down here, on the wards."

Support Worker 3: "They don't know what's happening here on the ward...if only they would spend some time with us they'd see what the main problems were."

Support Worker 1: "It's as if they don't care what goes on...we manage the best we can...they don't realise the problems we face."

#### ***4.21 Changes to the wards: implications for practice***

In addition to feeding back the results of the study to participants, it was equally important to determine if staff were aware of any changes that had been made since the cessation of the study. Staff were also specifically asked if they had any further ideas that could have contributed towards the on-going development of falls prevention and rehabilitation programmes i.e. implications for practice.

It could not be stated with any degree of certainty that the study had 'created' these changes to clinical practice as that would have required further evaluation and the use of particular outcome measurements. However, the responses of staff given in this section primarily relate to changes that had occurred as a result of local and national initiatives. For example, the implementation of more efficient working practices enabled staff to monitor and record falls incidents more effectively; this learning then informed falls prevention and care planning.

#### ***4.21.1 Reporting and learning from falls incidents***

Staff described improvements in the methods used to report falls incidents. This was seen as a positive step towards learning more about the nature of in-patient falls by highlighting specific details, including the location and day/time of each incident:

Physiotherapist 1: "This is a more open way of reporting falls...back to ward managers and the health and safety department"; "the monthly reports allow the ward to learn by addressing specific problems."

Nurse 1: "The use of electronic falls report forms can only be completed when actions have been taken...previously it was never clear if anything came as a result of the forms, but now we know."

Nurse 3: "The online incident reporting system generates statistics and other important information to help raise staff awareness."

#### ***4.21.2 Improved risk assessments***

The identification of risks on the two wards was an area that had recently been developed by ward staff. New manual handling risk assessments generated through the Productive

Ward increased communication between staff. These were linked with the falls risk assessment tool (FRAT) and the bedrail assessment guidelines:

Nurse 1: "There is a new moving and handling assessment...this is better for staff...they are performed on day one to get a baseline measurement, in conjunction with the physio and other manual handling facilitators."

Physiotherapist 1: "There is now a photographic guide that goes with the manual handling documentation."

Nurse 4: "The bedrail assessment is a joint decision partly made with the patients...although the staff have the final say on what option would be the most appropriate and safest."

Nurse 2: "The bedrail assessment helps us to decide whether to use the bedrails or not...it's used to assess the risks"; "the use of the risk register highlights possible risks on the ward, such as falls, tissue viability, medication rounds etc."

#### **4.21.3 Better communication between staff**

Discrepancies in communication between ward staff was a key issue that emerged from the study. Staff at the feedback sessions believed that this had improved in a variety of ways. Staff felt that better communication was a promising sign of working closer as a team in the best interests of patient care:

Physiotherapist 1: "The mobility charts and boards - [known as] 'Patients at a Glance' - in the dining room and in patients' bedrooms has improved communication with staff...especially the bank nurses who aren't as familiar with patients as other permanent members of the team."

Nurse 1: "The mobility charts at each patient's bed side...provide a visual, easy reference guide for staff...including transfer techniques, equipment and mobility aids used."

Nurse 4: "There have been changes to the handover sheets...there's more detail and increased communication, such as how patients are transferring."

It was established in cycle two that goal-planning was not an activity that staff engaged with on a consistent basis. However, there was an indication that setting goals was becoming more of a priority for the wards as it was regarded to be beneficial for service improvement:

Nurse 1: "We're trying to feature goal-planning more in the MDT meetings, although more isn't being done with patients."



Physiotherapist 1: "Goal-setting sessions are a good example of joint-working practices...this is important for staff development"; "staff are talking more about goal-planning, but clinical goals are still separate."

#### **4.21.4 Educational developments**

In addition to the falls risk screening tool and online reporting forms providing the means of learning from in-patient falls, there were other strategies that were either being piloted or had already been established to improve the learning between ward staff:

Physiotherapist 1: "There is a falls e-learning program currently being piloted...this will eventually go into staff inductions"; "the bi-monthly falls group, attended by the clinical governance lead, ward managers and consultants, share cross-Trust good practices."

Nurse 3: "There is a flow chart available which staff use following a fall...it documents procedures and pathways for better patient care."

#### **4.21.5 Falls prevention strategies**

The final area of discussion highlighted by staff which demonstrated improvements to clinical practice were different strategies and techniques used to prevent falls. The staff gave various examples of ways of preventing falls by augmenting environmental factors (i.e. those properties external of patients). There was a definite focus on managing a fall once it had occurred (e.g. to minimise the consequences of falling, particularly injuries) or preventing a fall by reducing the physical activity of patients:

Nurse 1: "There is an on-going use of low-profile beds, mattresses and sensors, although the sensors have varying effectiveness."

Support Worker 2: "The buzzers and alarm sensors are used more now."

Nurse 4: "The ward has more new beds now...low-profiling beds, which you can set at a low height"; "crash mats are still used beside patients' beds...these are used more."

Nurse 3: "There have been changes to the amount of storage space...related to the productive Ward....leaner working"; "more staff are needed to reduce falls."

Support Worker 1: "We need more staff...simple as that."

Physiotherapist 1: “We need to continue to manage the storage space in the therapy gym”; “better ways of monitoring falls...location, type of fall and so on...to increase information about falls...the more we learn the more prepared we can be to prevent falls.”

Support Worker 3: “The entire ward needs to be changed...there is a need for a purpose built rehabilitation unit...changes to the ward structure need to be made.”

#### **4.21.6 The Productive Ward**

A patient survey gathered information regarding peak times on the wards, including the relationship between staffing levels, falls rates and staff morale. This was conducted as part of the two wards’ implementation of a NHS imitative known as the ‘Productive Ward’; this programme focused on efficiency, safety and quality of care (NNRU, 2011). A key aspect of the programme was to increase nursing staff’s direct contact with patients. The staff explained how the changes that had occurred since the cessation of the study coincided with an increased adherence to the Productive Ward. This became a means of evaluating the concerted efforts of staff to develop falls prevention strategies and improve rehabilitative services:

Nurse 1: “The survey highlighted when the ward was the busiest...it showed that when it’s really busy, the number of falls increases and staff morale decreases.”

Physiotherapist 1: “The Productive Ward was a way of highlighting different methods of working and problems affecting the wards.”

Nurse 4: “It was a really difficult time in the summer...when staffing numbers were low...the staff morale was low...it was hard.”

Support Worker 1: “When it’s busy it can put extra pressure on staff...especially if patients fall”; “the patients with cognitive problems are the ones we need to watch out for...they’re more at risk.”

#### **4.21.7 Summary**

The feedback sessions were a useful means of completing the remit of the study by providing a sense of closure. Changes had been made since the cessation of the main data collection phase of cycle two, as staff demonstrated their knowledge of improvements in rehabilitation, communication and falls prevention linked with the Productive Ward.

Problems still existed on the wards as there were signs of fundamental issues yet to be resolved. For example, when staff commented on changes to falls prevention strategies, they placed a strong emphasis on the extrinsic management of the problem i.e. they preferred to modify the ward environment as a primary strategy rather than seeking more effective ways of addressing intrinsic risk factors. Staff also directed the responsibility for creating change at NHS managers rather than believing they could be agents of change, working alongside patients and their relatives.

It was difficult to ascertain an understanding whether staff believed team-working had improved as when this issue was discussed with participants they tended to direct the focus of the conversation towards blaming NHS managers for ward problems. There was an acceptance that certain matters had remained unchanged since the study, including inequalities in professional culture and a lack of support from management, and staff believed they were doing all that they could in spite of the many difficulties and challenges they faced on a daily basis. Other changes had occurred as a result of national initiatives implemented at local level, such strategies advocated by the Productive Ward.

## CHAPTER FIVE

### DISCUSSION

The previous chapter provided a description as to what the research found, whereas this chapter is more concerned with an interpretation of the data. The fundamental points that have been highlighted from the study will be explained and supported by evidence from the literature. Therefore, the aim of this chapter is to consider the findings in the light of previous research, local service improvement and development, and wider implications for clinical practice.

#### ***5.1 The voices of experience***

The two cycles generated a basis for the overarching aims of the study. The research methods enabled the voices to be heard of the people experiencing a fall in hospital (i.e. the patients) and of those responsible for managing the fall (i.e. the ward staff). The result was a combination of attitudes, beliefs and expectations that were either in harmony (resonance) or opposition (dissonance) with each other. There were issues unique to patients and staff respectively, but most of the data could be compared between the two groups of participants because common themes were discovered throughout the research. All discussions with participants focused on in-patient falls, including their experience and understanding of the possible causes and consequences. However, these conversations also embodied elements of rehabilitation, teamwork, mobility, cognition, and the ward environment, which were integral aspects of the primary focus of the study.

##### ***5.1.1 Limitations on interpretation***

This study benefitted from recruiting people with personal experience of falling in hospital. However, it is important to recognise that the sample size, particularly of the patients, was relatively small. One participant was recruited for the patient consultation, and five for the pilot and main data collection phases. Two of the latter patients fell twice which yielded

more data yet many of the potential participants on the two wards either did not fall or declined to be involved.

The interpretations of the findings in this chapter pertain only to the experiences of the patients and staff from the two rehabilitation wards, albeit supported by relevant literature. Therefore, discussions should be considered in the light of a limited sample size so as to prevent inaccurate or exaggerated representation of falls experiences on a wider scale.

Presented are discussions centred on the individual and collective experiences of all patients and staff who participated in this study. The theoretical frameworks and models will represent the findings as a whole as well as individual experiences.

## ***5.2 Conceptual model***

When all of the responses, perceptions and experiences of participants were analysed, issues were found to be either shared between patients and staff (i.e. areas of resonance/similarities) or were in opposition (i.e. areas of dissonance/differences). There were also issues specific to each of the participant groups. For example, fear of falling was primarily a personal experience of the patients, and a sense of a lack of support from upper management was specific to ward staff.

The model represents the understandings of participants as they described their perceptions of falls and falls-related experiences on the two rehabilitation wards. It epitomises one of the fundamental aims of the study by demonstrating how a complex, significant problem, was explored and understood from two alternative viewpoints. The model illustrates the blending of narratives, and shows how some opinions were shared with a natural sense of harmony, whereas other issues remained at a distance between patients and staff.

Figure 5.2 is a visual representation to illustrate how the two sets of voices, from patients and staff, were related in terms of areas of resonance and dissonance. Key themes have been placed within the model to highlight the significance of issues raised by participants:

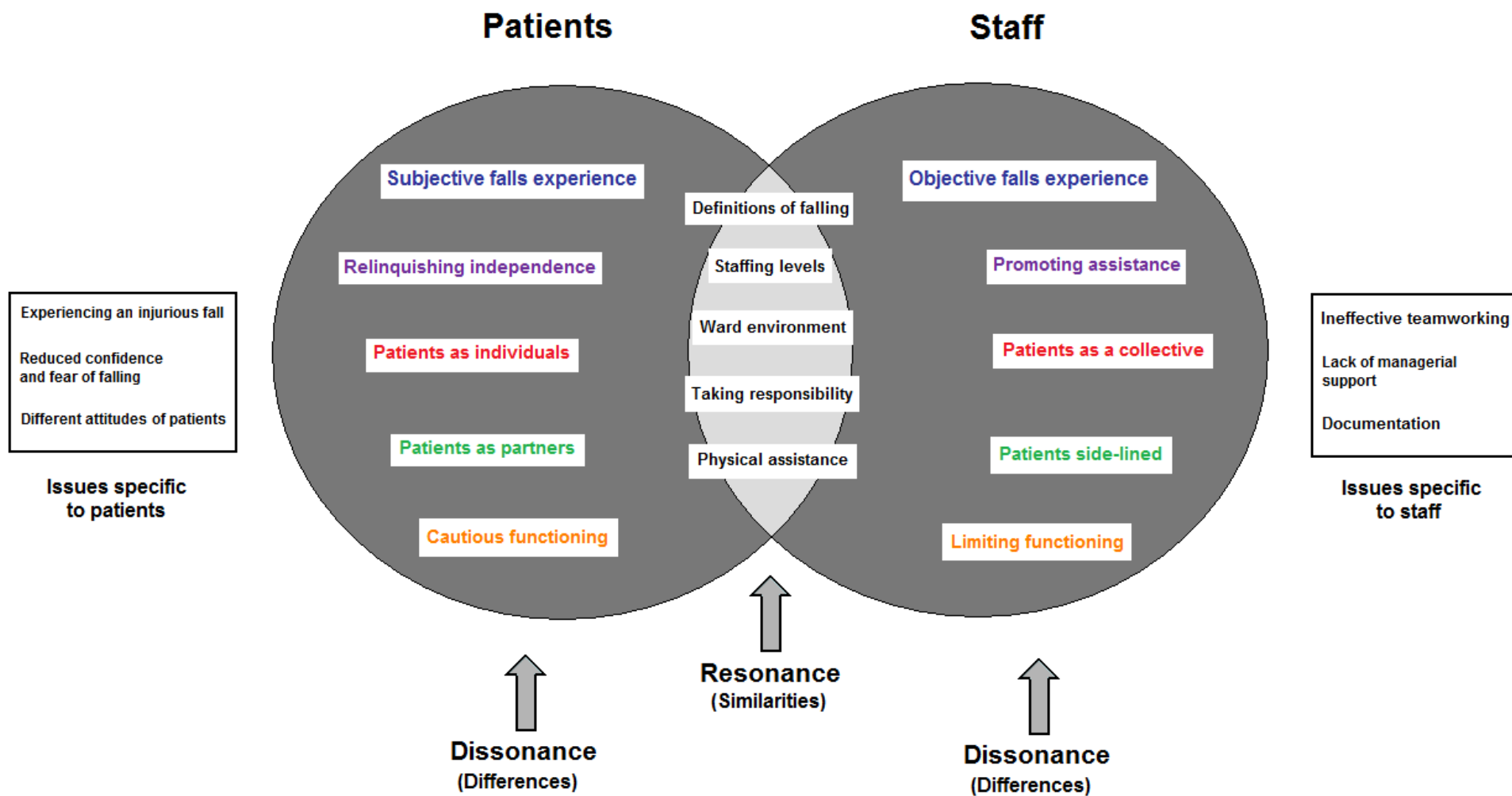


Figure 5.2 Conceptual model: resonant, dissonant and specific themes

All of the points placed around the model have been covered in detail in the Findings chapter. The following section will describe the key issues as they related to areas of resonance and dissonance between patients and staff. Issues that arose from the participants' responses could be placed within the model depending on level of congruence. Equal points were made by patients and staff although each had a counterpart that represented disagreements in the data. All participants described their own experiences of falls and falling yet there was a fundamental difference between patients and staff.

### ***5.2.1 Differences between participants***

Falling was unique to patients as they described falling as a personal, subjective and individual experience, whereas the staff maintained a detached, professional stance, grounded in an objective view of why patients fell and what physical interventions were needed to prevent future falls.

Fallers were portrayed as a collective group with a generic problem. Patients tended to be categorised into those with and those without cognitive impairments that directly influenced their behaviour, including insight into how safe certain tasks could be performed or avoided. This was demonstrated by patients reporting changes to how they functioned when in hospital. Reduced confidence and fear of falling was a significant aspect of patients' experiences that caused them to behave more cautiously with the environment and when mobilising. Staff perceived this 'threat-avoidance' as a common consequence of falling and chose to manage this problem through the provision of physical solutions. Methods frequently employed by staff included limiting patients' mobility by encouraging them to only walk with supervision, changing their walking aid, and advising some patients not to walk at all.

Staff commonly promoted the use of additional physical assistance, even if patients did not necessarily require it. This resulted in many patients feeling disempowered, limited in what they could/should do in their daily lives, and ultimately, influenced them to relinquish the responsibility of their rehabilitation to ward staff. This reinforced negative attitudes towards patients' own functional capabilities as patients soon became dependent on support from staff. Feelings of patients not being trusted to be safe and unreliability encouraged staff to

assume these responsibilities without foresight into the long-term and widespread, disabling consequences.

Decisions taken to over-manage and over-control the behaviour of patients, albeit with intentions - and professional obligations - of promoting safety on the wards, effectively removed patients from the focus of the health service. Falls experiences were not appropriately shared between patients and staff as equal partners, but rather patients were inadvertently side-lined. The wishes, understandings and personal experiences of patients were rarely explored by staff. Other factors were allowed to dominate over the active involvement of patients in their own rehabilitation, including clinical procedures, ward initiatives and ineffectual yet obligatory documentation. This presented a missed opportunity for staff to understand patients' falls more comprehensively, and therefore, prevented them from impacting at a deeper level with individually-tailored and mutually-agreed interventions.

### ***5.2.2 Issues shared between participants***

All participants demonstrated a collective understanding of what constituted a fall. Standard definitions in the literature were shown to staff who agreed that this is how they perceived a fall. Staff commented more on the specifics of a fall, such as medical causes (e.g. cardiac, neurological), whereas patients were more limited in their responses; they appeared to have an innate and shared belief that a fall was essentially a loss of balance or some form of slip/trip. However, no participant went into any degree of detail regarding how they defined a fall, and the data showed how a fall was often perceived to be an incidental occurrence with common characteristics.

Patients had commented on how difficult it was at times to alert staff to their falls risk and to raise the alarm once they had fallen due to a lack of staff presence. This became more of a substantial issue if patients increased their reliance on staff to provide external, physical support for functional and mobility tasks. Staff also discussed the problem of inadequate staffing levels throughout their participation in the study as they perceived this to be a fundamental reason for low staff morale, patient safety, and why particularly the nursing and support staff felt disempowered to promote the ideals of rehabilitation.



Despite patients and staff commenting on staffing levels from different points-of-view there was a strong connection in their responses, hence the placement of this issue as a 'similarity' on the model. This was also directly related to an over reliance on physical assistance provided by staff and readily accepted by patients. Even though this could be construed as not being conducive to promoting the ideals of rehabilitation, in terms of empowering patients to do more for themselves, it still remained an issue considered to be important by all participants.

The ward environment was also an issue with significant resonance between the participants. The staff on one ward in particular had strong views on this matter due to the historical design and purpose of the ward which staff felt hindered the implementation of rehabilitation. The layout of patients' rooms, furniture, a lack of hoisting equipment, and inadequate bathing/toileting facilities were the focus of the staff's concerns, and was reflected in several of the responses made by patients. Patients had described the circumstances of their falls to be related to the physical environment, such as grab rails in the toilet and metal floor runners (as a tripping hazard) in the dining/day room.

The final issue that resonated between patients and staff was related to participants taking responsibility for falling. Despite a range of factors that were considered to be integral to the reasons why patients fell, including the role of ward staff and environmental hazards, patients themselves assumed the ultimate responsibility for falling. They blamed incidents on a loss of balance, overconfidence and making unsafe decisions with regards to how they performed functional tasks and walking. Falling was a very personal experience for patients and their stories demonstrated an overarching feeling that a fall was their fault, and it was ultimately up to them to either attempt to resolve a particular problem (e.g. exercise training) or, more often than not, to accept the problem was beyond their capacity to change, hence their reliance on staff for support. Daily reinforcement by staff of additional assistance changed the beliefs and values of patients - even those who demonstrated a stoical attitude towards their fall - so that assistance was increasingly readily accepted and relied upon by patients.

### **5.2.3 Specific issues**

Issues specific to the patients and the staff tended to be personal factors that directly affected participants as individuals, or affected the patients/staff as a collective group of participants. For example, fear of falling and personal attitudes were experienced by patients, whereas evidence of ineffective team-working and issues around clinical documentation only pertained to ward staff. It was acknowledged, however, that some of the specific points did have some connections with other issues raised by all participants. Experiencing an injurious fall was an example of this whereby only the patients sustained an actual injury, although staff were involved in some capacity, such as modifying their choice of manual handling technique and assessing/treating injuries etc. However, these connections were much weaker than other aspects of the participant's stories and so were more appropriately placed as specific, separate points to highlight that not all experiences were shared by the participants.

### ***5.3 Understanding rehabilitation***

Despite the focus of the study being on in-patient falls, discussions held with patients and staff frequently included emergent issues. It was common for participants to discuss matters regarding the adherence and provision of rehabilitation that highlighted how patients and staff understood this as a concept. Figure 5.3 illustrates a theoretical journey through the hospital system whereby staff were in agreement that with time and professional input a patient would gradually improve their functioning towards a state that was optimal for them; ideally, safe and independent with their mobility and functional tasks, as per the aims of rehabilitation (WHO, 2009; Pryor and O'Connell, 2008).

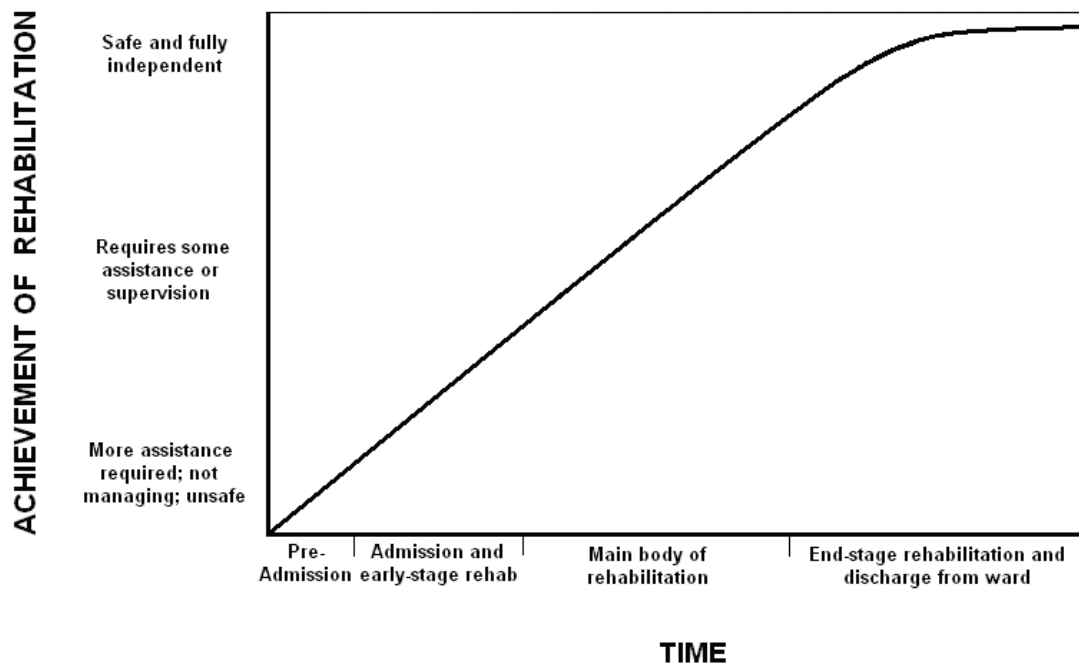


Figure 5.3. Optimal outcome of rehabilitation

### 5.3.1 *The patients' interpretation of rehabilitation*

Within the experiences of patients were fundamental aspects of rehabilitation, including understanding the purpose of being in hospital (i.e. the aims of rehabilitation); their expectations of what could be achieved; motivation and adherence to interventions; and most crucially, insight into their own problems, abilities and falls risks. Discrepancies in any of these factors inevitably impacted on patients' experiences, including functional outcomes and discharge planning. For example, if patients did not fully understand the reasons why they were admitted into hospital, they would have not entirely realised what was expected of them in terms of adhering to therapeutic interventions. This might not entirely be due to a lack of knowledge but also due to poor motivation, as found by Whitehead et al. (2006).

The Findings chapter demonstrated how a fall in hospital changed the outlook patients had on their progress; this theme of reflection was used by Roe et al. (2008) to facilitate an understanding of falls experiences. In particular, it was evident that a fall altered patients' beliefs and values regarding what they could do by themselves safely (Delbaere et al., 2010), and how much assistance they either required or desired from ward staff (Kong et al., 2002). The impact that a fall had on patient confidence and motivation was dramatically

altered so that patients actively sought more assistance from ward staff. In doing so, their choices and behaviours created a greater dependency on external support. Walking aids and other equipment generally help patients to maintain their independence if they require minimal assistance (Vogt et al., 2010; Bateni and Maki, 2005), whereas for the patients in this study, a fall had changed their perceptions of what they could do safely, and so they required support from staff in addition to the use of various items of equipment. With staff demonstrating a willingness to provide this extra assistance, they invariably - and often inadvertently - reinforced these behaviours.

### ***5.3.2 Patients' own personal insights***

Throughout the study patients demonstrated an inherent understanding of their own personal circumstances. Patients accurately described personal factors pertaining to the causes and consequences of falling in hospital. These included how they defined their fall, the mechanisms of falling, short- and long-term consequences, and potential ways of preventing falls. These have been important areas explored in other qualitative studies including Carroll et al. (2010), Roe et al. (2008) and Zecevic et al. (2006).

What was not so apparent in the patients' responses was the connection between knowing what their problems were and their adherence to strategies most conducive to producing functional improvements, as also found by Whitehead et al. (2006). This was not the same as highlighting methods of falls prevention, as patients managed to do this well, but rather believing that they could - and would - actively participate in ways of developing their optimal independence. For example, Ron stated that he needed to walk more and that exercise was beneficial, yet he also believed that he needed a wheelchair to mobilise, despite only requiring minimal assistance to walk at the time he made the comment.

Reduced confidence appeared to fundamentally change the reasons why patients behaved the ways that they did, including making decisions to seek assistance from staff when that assistance was not necessarily required. Staff reinforced these changes by providing that assistance while at the same time blaming patients for making poor choices. Patients did have insight into their own problems, yet staff rarely took advantage of the opportunities to turn these insights into valuable ways of improving rehabilitation. This led to patients

reporting feeling more dependent and less empowered, although the maintenance of safety was reported to be consistent throughout each patient experience.

### ***5.3.3 Staff interpretations of rehabilitation***

Staff agreed with definitions of rehabilitation presented to them in the CLGs, yet the data identified poor working relationships and team-working practices affected the rehabilitation ethos. Early in cycle two's data collection phase it was clear that staff believed they had the appropriate skills and experience to manage in-patient falls despite having not engaged in any specific training or educational activities. This was a point identified by two studies investigating attitudes towards effective team-working (Higgins et al., 2007; McLafferty and Morrison, 2004). Staff believed that falling was more of a natural, inevitable phenomenon rather than an artificial problem, as they accepted that it was highly likely that patients with mobility and health problems would fall. Therefore, rather than showing a pro-active interest in wanting to reduce falls from occurring, staff seemed more comfortable at managing falls once they had occurred, that is, they took a more reactive approach.

Part of this approach came from how they regarded patients who fell, in terms of applying blame and wanting to control the situation. By wanting to reduce risk and place patient safety above all else, patient choice and empowerment were treated with secondary importance in the recovery phase following a fall. Furthermore, the enthusiasm of staff to manage the physical aspects of a fall directed their focus away from learning more about the incident, particularly the psychological and social consequences of falling. In this way, staff rarely commented on improvements being made to their clinical practice, which not only demonstrated problems in existing falls prevention strategies, but also highlighted how much of a problem in-patient falls was to the two wards, despite staff not openly accepting this. Staff frequently reported patients to be at fault for falling (Higgins et al., 2007; McLafferty and Morrison, 2004), usually due to making inappropriate, unsafe decisions with regards to mobility and functional tasks (Delbaere et al., 2010).

If patients could not be trusted with their own safety then staff felt they had to exert additional control over their management so as to prevent future falls. In doing so, staff reinforced negative self-limiting beliefs of patients - which primarily originated through a lack of confidence and fear of falling, as found by Jorstad et al. (2005) and Vellas et al. (1997) -

and discouraged behaviours that were conducive to patients regaining their independence. Providing more external assistance, including equipment provision (e.g. walking aids), as a primary method of risk management meant that staff did not entirely adhere to the essence of rehabilitation. This continued to impact both on falls prevention and the post-fall recovery process.

#### ***5.3.4 Understanding patients' lives and experiences***

Ward staff believed that patients lacked insight into their own problems, such as how much their medical condition(s), cognition and previous/current mobility impacted on their ability to perform activities independently. Staff knew from their clinical experience that patients would naturally be at a higher risk of falling due to the common reasons for admission e.g. problems with mobility, confidence and frailty. Therefore, staff appeared to form a negative opinion of patients' capabilities prior to admission and had mixed expectations as to how patients might progress. These opinions did not seem to change during the course of rehabilitation, despite patients demonstrating a reasonable insight into their own personal circumstances.

Team-working issues between ward staff meant that they did not entirely understand the experiences and concerns of patients, which was an issue also identified by McKenzie et al. (2011) and Richards et al. (2007). Staff described problems with being able to communicate effectively with each other. The weekly MDT meeting was the only opportunity for staff to come together and discuss ward matters yet support staff were excluded from these meetings. Meetings tended to be biased depending on which professionals were present. In particular, the ward medical consultants were reported to dominate all meetings by having the strongest say in decision-making, even if that meant over-ruling all other staff in attendance. Inequalities in professional status and power were also found by Cott (1997), Clark (1997) and Long (1996).

Alternative means of communicating could not supplement the problems experienced in the MDT meeting. Tzeng and Yin (2008) investigated the benefits of communication as a means of improving patient care and reducing falls, and identified a similar finding as this study in that nursing handovers were reported to lack information at times which would have been beneficial to patient care. One of the ward doctors was excluded from handovers

which they believed prevented them from knowing information regarding patients' daily management. One staff nurse had previously suggested the use of a communication book but this idea had not been supported by NHS managers; staff believed this was an example of how innovation and creativity was rarely encouraged.

There were opportunities for staff to engage with patients so as to improve their understanding of patients' lives and problems. Some examples included goal-setting sessions (e.g. to determine personal aims and ambitions with regards to adhering to therapeutic interventions etc.); asking patients to describe more clearly what caused them to fall, when completing incident report forms; gaining a more detailed background when staff assessed for falls risks upon admission, including falls histories and self-perceived risks of falling; reviewing falls incidents (including supporting clinical documentation) after the initial incident, to determine any residing consequences, particularly fear of falling, reduced confidence and changes to mobility. Despite the benefits of these various options, staff did not engage with patients via these activities on any regular or consistent basis.

Staff created their own barriers to a better understanding of patients' experiences through the ways in which they perceived the choices and behaviours made by patients. Patients were typically seen to be held responsible for falling due to making inappropriate and unsafe decisions, particularly with regards to mobility. Cognitively impaired patients were seen to have an excuse for their behaviour, as staff believed these patients lacked insight into their own capabilities and, as a sub-population, were at higher risk of falling. However, staff demonstrated negative attitudes towards cognitively *intact* patients, such as those recruited in cycle one, as evidenced by such comments as "daft", "unreliable", "loopy" and "more obedient". Thus, these patients were considered to be more at fault of falling, and were consequently blamed by staff who then took more control over the behaviours of patients so as to reduce further falls risks. In Randers et al. (2002), similar issues were found to support the prejudices cognitively intact patients experienced. This approach to risk management tended to reduce the opportunities for patients to take responsibility over their daily lives (Benten and Spalding, 2008). Furthermore, the strong focus on managing physical risks, often with limited time and staff, prevented staff from engaging with patients on an emotional level (Sorrell, 2010; Brunero et al., 2010) which could have otherwise revealed more of an insight into the psychological and social consequences patients were experiencing after a fall.

### **5.3.5 *The impact on functional outcomes***

The differences in professional outlook between ward staff inevitably influenced the progress of patients (Gregory and Haigh, 2008; Wilson, 2005). Inconsistencies were reported by patients and staff with regards to the daily management of patients. These included different verbal instructions, the use of manual handling equipment and walking aids, the planning of tasks, and variable levels of physical support/assistance. The consequence of these factors changed the progress patients made in regaining a pre-morbid state of functional capacity. This was altered further when a patient fell and staff felt it necessary to take more of a leading role in managing future risks. In doing so, it was commonly reported for patients to initially accept, and then prefer, more assistance from staff, thus becoming more dependent; this was a finding also identified by Delbaere et al. (2004) and Kong et al. (2002).

Feelings of reduced confidence, particularly if patients experienced a second fall, as well as staff reinforcing the point that patients required physical help with functional activities, continued to develop throughout each patients' stay in hospital. Certain members of the team, particularly the therapists who had a slightly alternative outlook to the nursing staff had implemented interventions that at times seemed to contradict patients' preference of wanting more assistance. With different members of ward staff pulling patients in different directions, according to how they viewed rehabilitation, patients reached a level of functioning that was not predicted during the early-mid phases of rehabilitation. Their functional outcomes were not determined by chance but rather were shaped by the varied input of ward staff, many of whom were in conflict with one another, as found by Wilson (2005).

### **5.3.6 *Patient involvement, empowerment and participation***

There were several factors that acted as barriers to patients becoming more involved with their rehabilitation. The most prevalent factor highlighted in the participants' responses was staff over-reacting to falls incidents. Their approach to risk management was more reactive to the situation than proactive, which often meant that patients' autonomy was restricted (Stewart, 2001). More assistance was given even though patients did not always require



this, yet additional support was regarded to be an effective means of pre-empting another fall. Bateni and Maki (2005) also found this to be a commonly used falls prevention strategy.

Risk management was partly governed by staff members' past experiences and intuition as well as a general awareness of the falls risk status of patients (Myers and Nikoletti, 2003), as indicated by the numerical falls risk assessment tool (FRAT). Staff found that these two methods were largely conducive to how they managed falls as they supported the reasoning behind staff assuming more responsibility for the safety of patients. Key information developed from staff's own clinical experience and the findings of the FRAT were not disseminated to patients in the form of advice or education (Benten and Spalding, 2008). Therefore, some patients reported not knowing the cause of their falls or why certain interventions were being implemented. Furthermore, changes to aspects of patients' lives - which patients were previously amenable with - had occurred without their full understanding. For example, staff had changed walking aids without ensuring that patients understood the reasons for these changes. Some of these changes were necessary to enhance safety and progress mobility, yet some of the positive benefits became lost in the ward staff's pursuit of controlling and managing the situation. Patients became less involved in their rehabilitation, more dependent on assistance, and gradually adopted the belief that they could not be as independent as perhaps they initially hoped they would be, as per the primary purpose of why they were admitted into hospital. Kong et al. (2002) and Faulkner (2001) also reported similar findings in that patients' attitudes towards their independence would change following a fall.

### ***5.3.7 Impacting on patients' experiences***

Patients' overall experiences of being in hospital were related to functional outcomes as patients reported associating rehabilitation with improvements to their walking and activities of daily living (Atwal et al., 2007). However, there was a deeper level to their experiences that went beyond physical functioning. Patients were encouraged to describe how their fall made them feel in terms of the impact on their personal lives. Patients initially responded by giving some form of physical example, such as how their mobility was affected by their fall - a key point also found by Zecevic et al. (2006). Gradually, with further prompting, patients began to open-up their experience so that psychological, social and emotional consequences were revealed (Roe et al., 2008). This added greater depth to their

involvement in the study, and it became apparent that these factors were not being addressed by the clinical assessments and interventions regularly being implemented by ward staff (Atwal et al., 2007).

It was difficult to ascertain whether patients were satisfied by their experience of being in hospital because they all gave mixed responses. However, considering all of their views and opinions, the evidence showed that patients generally had a negative experience of falling. The patients' experiences of falling formed a significant part of their entire journey through hospital, and their responses showed that the consequences of falling were integral to other areas of their lifestyles, such as mobility, confidence, social habits, and ultimately, their functional independence. Furthermore, their experiences provided an insight into the different phases of a fall and how this impacted on their overall progression through hospital.

The patients' experiences of being in hospital, in a wider sense, were less negative than their experience of falling, with certain positive factors providing a balance to their opinions. Patients felt safe during their hospital stay, and improvements to their functioning had been made i.e. patients were better at discharge than they were upon admission (Green et al., 2008). Patients appeared to be satisfied with these outcomes, despite the prevalence of negative factors remaining unresolved. These factors, such as confidence and dependence on external support, seemed likely to remain with patients after they were discharged back into the community (Davenport et al., 2009). This was a point disputed by ward staff who blamed community-based services for failing to provide adequate post-discharge rehabilitation and care, whereas many of the patients' problems were either created or reinforced in hospital, which was a point also found by Bauer et al. (2009).

#### ***5.4 The phases of a fall***

The study highlighted three distinct phases of an in-patient fall. These could be broadly defined as: pre-fall, during fall, and post-fall. There was a subtle relationship between these three phases and the different stages of rehabilitation in terms of the level at which a patient was functioning and when the fall occurred. Ultimately, most patients were expected to achieve an optimal level of functioning so that they could safely return home again. However, at some point during their hospital stay a fall occurred - usually during the early

stages of each patient's main body of rehabilitation - that significantly impacted on this expected pathway towards good health. This dramatically reduced the likelihood of a patient achieving an 'optimal' outcome and altogether positive experience, and for alternative, lesser outcomes/experiences to be attained instead. To give greater meaning to the changes that occurred during the latter phase of a patient's rehabilitation, as well as to provide a valuable comparison between the three phases, it was important to explore the key areas of resonance and dissonance between patients and staff that were experienced at all three phases of a hospital fall.

#### ***5.4.1 Pre-fall - warning signs***

The phase that preceded each fall coincided with the early stages of a patient's rehabilitation, including the time before they were actually admitted into hospital. This phase was approximately the first 2-3 weeks of a patient's rehabilitation, and included all of the aspects associated with being integrated onto the ward and being a recipient of the rehabilitation service.

This was a relatively fragile time for developing relations between patients and staff, as well as laying the foundation for future progress. It was a time to change any pre-conceived notions of rehabilitation and to establish the pathway that lay ahead that would ultimately improve patients' functioning. Studies by Benten and Spalding (2008) and Atwal et al. (2007) also highlighted the need to establish good patient-to-professional relationships early in the rehabilitation process.

Failing to empower patients after a fall belied the purpose of rehabilitation, which, defined as a process of enablement (WHO, 2009), proposes that patients should have had an increasingly active role rather than passively accepting the care offered by staff (Roberts, 2001). There was an opportunity for staff to challenge patients' self-limiting beliefs, but instead the data demonstrated how they regularly reinforced contradicting behaviours by assuming greater control over patients and by providing too much assistance. In doing so, patients and staff became unified in terms of working in opposition to the aims of rehabilitation without actually realising it (Faulkner, 2001). Therefore, some of the beliefs and attitudes exhibited during the pre-fall phase, which acted as warning signs to a fall or other health problems went unnoticed and unaddressed.

#### **5.4.2 Pre-fall - the control and management of risk**

The subtle aspects of risk, such as patients changing their social behaviour or adopting compensatory strategies, were difficult to formally assess. Therefore, these factors were more likely to be missed by the ward staff who frequently described having to work under pressure caused by excessive paperwork, additional clinical duties and inadequate staffing levels, as also reported by Bae et al. (2010), Benten and Spalding (2008) and Higgins et al. (2007).

The way in which staff sought to manage their own workload and patients at risk was to overly control the factors that were most readily identifiable through primarily quantitative risk assessment screening tools. Risk factors were usually managed by applying rules, boundaries and limitations to patients' lifestyles and behaviours. Examples of these include patients to only mobilise with a particular walking aid and assistance from staff (rules); patients to mobilise within set areas of the ward only, such as their own bedroom or bathroom (boundaries); patients advised not to wash or dress themselves but to seek assistance instead (limitations).

Even though staff considered interventions to be necessary measures to prevent a fall from occurring, staff rarely acknowledged less favourable outcomes. This was a critical point that underpinned the pre-fall and post-fall phases of patients' experiences. Particularly in relation to the circumstances which preceded a fall, the negative consequences of imposing such restrictive measures included the reinforcement of patients adopting a more passive role in their rehabilitation, and staff becoming more dominant in terms of decision-making and having an influence over patients' choices of behaviour. This often led to patients feeling disempowered (Faulkner, 2001) and inequalities in status between members of staff (Gregory and Haigh, 2008; Cott, 1997; Clark, 1997).

Being overly cautious with reducing risk was apparent in many of the patients' responses. Patients had frequently described situations when they experienced a change in the status of power between themselves and the ward staff (Atwal et al., 2007). Central to this status of power was the ownership of rehabilitation. Patients reported changes to their rehabilitation that were largely the result of the multifactorial consequences of falling in hospital. Each patient's beliefs and values were integral to these changes and so too were the actions of the staff in attempting to prevent a fall.

#### **5.4.3 Pre-fall - falling as a problem**

Patients' pre-existing beliefs and attitudes with regards to falling were not assessed by ward staff; only more objective factors, such as unsteadiness and number of falls, were documented in falls risk assessments (Titler et al., 2011; Myers, 2003). Staff needed to identify and resolve these issues yet expressed being limited in time and staffing resources (Higgins et al., 2007). The beliefs and attitudes that could be construed as a negative influence on early-stage rehabilitation were often difficult to ascertain. There was little opportunity for staff to engage with patients so that a mutual understanding could be achieved or strategies could be put in place to change patients' beliefs so that rehabilitation and the risk of falling could be seen in a more positive light.

#### **5.4.4 Pre-fall - falls prevention**

One of the most fundamental topics discussed with all participants was if they believed that falling could be prevented in hospital. The very reason why patients were in hospital was due to physical, psychological or social problems that impacted on their functional capacity. Therefore, ascertaining an understanding of how patients defined a fall, whether they believed falling was a problem, and how they described the consequences of falling were all related to how much value patients placed on the professional input from staff for their rehabilitation (Atwal et al., 2007). The ways in which patients engaged with staff were directly influenced by their ability and willingness to perform the necessary activities to optimise their functional recovery and to prevent (further) falls. Their responses highlighted issues surrounding their own beliefs and values, levels of motivation, and actual/potential adherence to strategies.

Walking as an independent, physical activity was not necessarily regarded by participants to be a method of preventing falls (Sherrington et al., 2008). Rather, it was the modification of walking that patients and staff recognised to play a pivotal role in reducing falls risk. The use of walking aids and performing balance exercises were common interventions that directly impacted on the physical attributes of walking, whereas empowering patients through confidence rebuilding and encouraging less dependence on staff were interventions acknowledged less by participants, as found in studies by Hellstrom et al. (2009), Delbaere et al. (2004) and Faulkner (2001).

A consequence of emphasising the physical characteristics of falls prevention included patients feeling less empowered to take ownership over their rehabilitation by giving more power in decision-making to ward staff. If a patient fell, as was commonly expected, the consequences of falling demonstrated how patients were poorly equipped to psychologically manage the after-effects (Kong et al., 2002). The wide-range of short- and long-term consequences of falling meant that patients continued to endure low self-esteem, reduced confidence and fear of falling, which were consequences also identified by Jorstad et al. (2005) and Yardley et al. (2005), in addition to the many physical problems that were often exacerbated after a fall. Therefore, certain aspects of falls prevention were more successful than others, yet issues remained that meant further problems increased in significance as patients continued on their journey through hospital.

#### ***5.4.5 During fall***

The second phase of a fall was the actual fall itself, and included the movements and activities that immediately preceded the event (e.g. walking, turning or reaching for an object), any warning signs (e.g. dizziness, palpitations), and finally, the immediate management of the fall (e.g. manual handling techniques and treatment of injuries). Despite the distress experienced at the time of an actual fall, the second phase did not appear to impact on a patient's overall rehabilitation to the same extent as the phase that followed a fall. The 'during-fall' phase was the period of time which led up to a fall (from a few seconds to a maximum of 24 hours); the exact moment of falling; the immediate management of the fall (i.e. the time it took for staff to assess for injuries and to assist patients back into a resting position); and the first 24-48 hours following a fall.

#### ***5.4.6 During fall - sustaining an injury***

The assessment and treatment of injuries, including any follow-up scans/tests such as x-rays, was standard practice and formed the basis of the during-fall phase. Despite the most significant, immediate consequence of falling to be the potential to sustain an injury, only a few of the patients described hurting themselves - and even these were minor injuries that caused little concern to the participants. Therefore, the degree of emphasis that staff placed on injuries did not reflect the reality that patients actually experienced.

The risk of sustaining an injury from falling demonstrated how patients and staff perceived each incident in terms of how their involvement was influenced by a particular way of behaving. Staff were more confident in working within a physical domain when it came to the imminent prevention and immediate management of a hospital-based fall; this point was also found in a study by Zecevic et al. (2006) who explored different understandings of falls experiences. They commented less on the psycho-social aspects of falling, which was a critical area of dissonance between the staff's and patients' experiences. Staff approached each fall in a procedural, practical attitude, whereas patients did not place as much emphasis on the physical properties of their falls, but rather described how the incidents impacted on them psychologically, emotionally and socially (Carroll et al., 2010; Zecevic et al., 2006; Kong et al., 2002). This continued into the post-fall phase, as highlighted by their responses based on the short- and long-term consequences of falling.

#### ***5.4.7 During fall - immediate management***

A combination of time, staffing resources and manual handling protocols demonstrated the objective, practical ethos of how staff managed in-patient falls. The consequence of adopting such an approach was highlighted in the patients' responses when asked if they were given a choice in how they were assisted. In some circumstances, patients required particular equipment to aid them, as any other technique would have been deemed too dangerous and unsafe for both the patient and the staff assisting. However, the combined responses of the patients and staff suggested an imbalance between the level of input required from staff and how much input was actually given. A key element of this was the lack of emphasis reported by participants regarding patient choice.

As a subsidiary issue, the opportunity to promote self-management and helping patients to learn from a fall was rarely mentioned by any of the participants, despite this being a responsibility of the ward staff. This provided further evidence of how patients were often excluded from decision-making processes by limiting their personal choice and not fully explaining options with them. Furthermore, the during-fall phase produced opportunities for personal and professional learning yet these were very rarely explored as staff and patients opted for more compensatory, physically-oriented strategies instead.

#### ***5.4.8 During fall - the significance of the timing of falling and rehabilitation***

The majority of the patients fell approximately halfway through their total hospital stay; any second fall also occurred within this time-frame. One theory to explain this phenomenon could be the difference between how confident patients felt when they performed functional tasks in comparison to their actual physical capability. Delbaere et al. (2010) found a discrepancy between these two factors at certain points throughout a patient's stay in hospital which also resulted in a fall. The authors believed that a plausible explanation for falls to occur at this time was due to patients feeling more confident following some degree of professional intervention and therefore felt that they were safe enough to perform tasks. However, their physical level did not equally match their level of confidence, and so patients ended up doing more than what they were capable of, resulting in them falling. As time progressed, patients increased their levels of physical functioning to the point of which they were on par with their confidence; it was at this stage when the number of falls began to decline. The results of Delbaere et al. (2010) could offer a plausible explanation for the timing of patients' falls in relation to their journey through rehabilitation.

#### ***5.4.9 Post-fall***

The final phase of a fall was the period of time from approximately several days after the actual incident until the day of discharge - and potentially beyond into the community. This was essentially the recovery period after a fall whereby falls risk screening had been completed; patients had been assisted into safer positions; staff had assessed and treated any injuries; and generally, all those involved in the incident could resume their previous level of activity within the rhythm of daily ward life. Staff described how they often supervised patients more closely following a fall to minimise any residual shock or acute physical consequences, as also found by Tzeng and Yin (2008).

#### ***5.4.10 Post-fall - the consequences and personal impact of falling***

Two significant areas of resonance between patients and staff of the post-fall phase were the consequences of falling and the personal impact of falling. Fear of falling was also a key issue shared by participants, although it was more of a personal experience to patients than



to staff. There was a clear relationship between the short- and long-term consequences of falling and how falling made patients feel. Patients expressed their views on a range of factors, with confidence, mobility and assistance from staff being the most prominent issues, highlighted also by Carroll et al. (2010) and Kong et al. (2002). These were also identified by staff, though as staff tended to emphasise the physical elements of falling in hospital more than psycho-social issues most of their responses focused on injuries and mobility, which was a similar finding made by Zecevic et al. (2006).

Reduced confidence following a fall was shared between all patients. Falling made patients feel less able to perform functional tasks independently, such as walking and toileting. Their responses suggested psychological changes that impaired their previous self-perceptions of safety and functioning (Delbaere et al., 2010). This was directly connected to their fear of falling with subsequent behavioural modifications to their lifestyle. Several patients stated that they exercised greater caution when walking as a prevention strategy as well as asking for more assistance from ward staff.

### ***5.5 Patient's individual experiences***

It has been demonstrated that a fall fundamentally altered patients' journeys through hospital. The experience of a fall impacted on patients' beliefs and attitudes towards rehabilitation, including their perceptions of what they could achieve safely and how they accepted or denied the use of support in the form of staff and/or equipment.

Each patient who participated in this study had a different story to tell; a different narrative that illustrated the many ways in which their fall(s) impacted on their lives. Furthermore, their experiences showed how their fall(s) prevented them from achieving an optimal state of functioning. Some patients continued to slowly improve throughout the remainder of their (post-fall) stay in hospital whilst others either reached a level of maintenance only (i.e. a plateau) or slightly deteriorated.

The following five sections will provide an overview of each patient's personal experience. The model presented as figure 5.3 will be used as a framework to which their own journeys can be set against as a comparison to illustrate what could be potentially achieved - or

expected from being rehabilitated - to the actual experiences of participants. Statements made by patients during their interviews will be used to support each model.

### 5.5.1 David's experience

David had a generally positive experience of being in hospital, and this was not significantly altered following a fall. Figure 5.5.1 'David's experience' illustrates his overall journey:

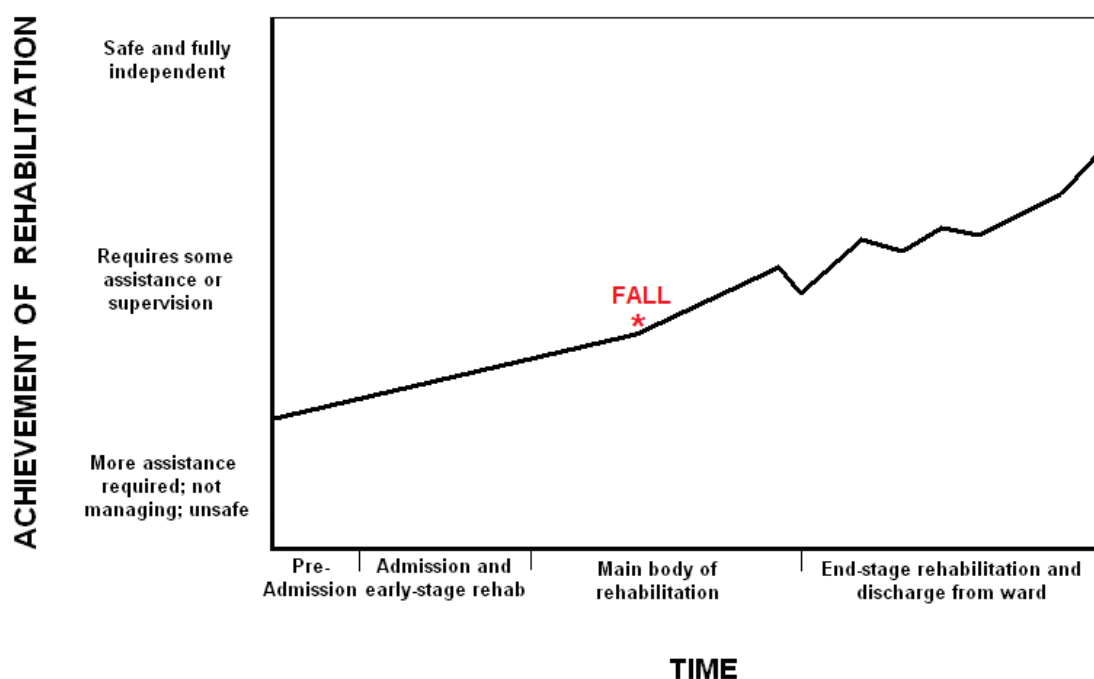


Figure 5.5.1 Effect of a hospital fall on David's rehabilitation trajectory

Despite David's childhood polio he reported learning to live with his physical impairments so as to largely refrain from being disabled. He struggled with daily tasks at times but overall developed a stoical attitude towards being able to move freely and accept the risks of his physical weakness:

"I had polio as a child which left me with a weakness on my left side more than my right...I usually walk with a stick and I also wear supports in my footwear to help me balance when I walk"; "having polio when I was a child also affected things...made my legs weaker, and I can sometimes struggle with day-to-day tasks"; "walking is getting more difficult, but this could be to do with my age."

He was unsure whether he would fall prior to coming into hospital and appeared to leave this up to chance (“no, I didn’t think I’d fall before coming into hospital - I just might or not”). This uncertainty yet willingness to continue accepting the risks for the benefits of independent movement, albeit predictably inefficient and effortful, continued into the early stages of rehabilitation (“I’m unsure if to expect it or not”).

He was progressing well during his hospital stay but then fell. He showed good insight into the reasons why he fell, blaming himself and his pre-existing weakness from the polio. His stoical attitude prevented him from deteriorating soon after his fall, although his responses demonstrated conflicting beliefs as to his future progress. For example, he reported how little an impact the fall had on his hospital stay, and he maintained a strong attitude towards engaging with mobility practice and exercise:

“The fall didn’t affect my daily life - with meals, walking and so on...these are all fine. I just got on with things...my daily life is unaffected”; “I need to walk more to keep what strength I have left”; “I know that my legs aren’t as strong as they used to be...I need to keep on walking to make them stronger”; “I need to improve my walking...retrain myself...although I’m unsure how successful I’ll be in doing this because I’m already restricted in my mobility, from the polio.”

However, he also recognised a greater reliance on physical support to assist with functional tasks. This resulted in an upward progression of his rehabilitation, albeit with instances of variability.:

“There’s plenty of staff to help...I walk with the help of staff...I take more care and ask for assistance from staff”; “I walk more with a frame now...with supervision...and with the help of staff”; “I now hold onto the wall when I wash my face in the morning.”

Finally, his prevailing attitude towards improving his physical weaknesses (e.g. “the physios can help with exercises...to help improve my walking and get my balance better”) enabled David to attain a state of functioning close to being safely independent upon discharge planning.

### **5.5.2 Joan’s experience**

Joan came into hospital with a significant past medical history, including previous falls and several physical impairments. She was struggling at home to perform functional tasks

safely, and could barely mobilise with her zimmerframe. She reported making slow but steady progress with her rehabilitation before experiencing a fall approximately halfway through her hospital stay:

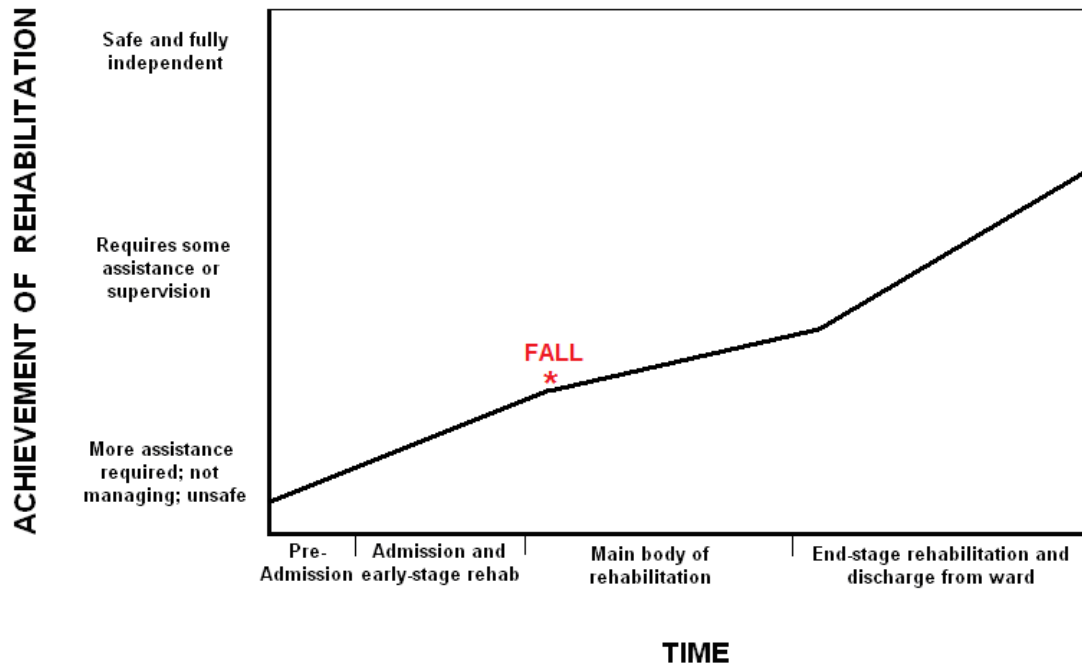


Figure 5.5.2 Effect of a hospital fall on Joan's rehabilitation trajectory

Her post-fall progress was influenced by a mix of positive and negative attitudes, although she generally continued to improve, albeit with more assistance from staff and lacking confidence:

"Walking is such a big problem for me. I don't like to walk by myself anymore...falling has really changed my confidence. I wonder if this is normal for me now"; "I don't like to walk by myself anymore...falling has really changed my confidence"; "I try to more cautious, although this sometimes doesn't work"; "help is always there...staff can advise patients on safer tasks and transfers"; "no, not a problem - it was just a one-off accident. It didn't matter."

Joan described having positive beliefs that enabled her to continue with her rehabilitation:

"there has been no effect on my rehabilitation. I want to carry on as I was before this happened"; "no I didn't think I'd fall, and I don't expect to fall again...hospital is a safe environment."

Finally, she concluded her interview with some statements that demonstrated on-going improvements throughout the remainder of her hospital stay:

“preventing falls can be done by being more cautious with daily tasks, such as walking and getting out of bed”; “balance work and exercises can help prevent falling”; “my balance is improving with time on the ward.”

### 5.5.3 Pat’s experience

During the course of Pat’s stay in hospital she experienced two falls, both within two weeks of one another:

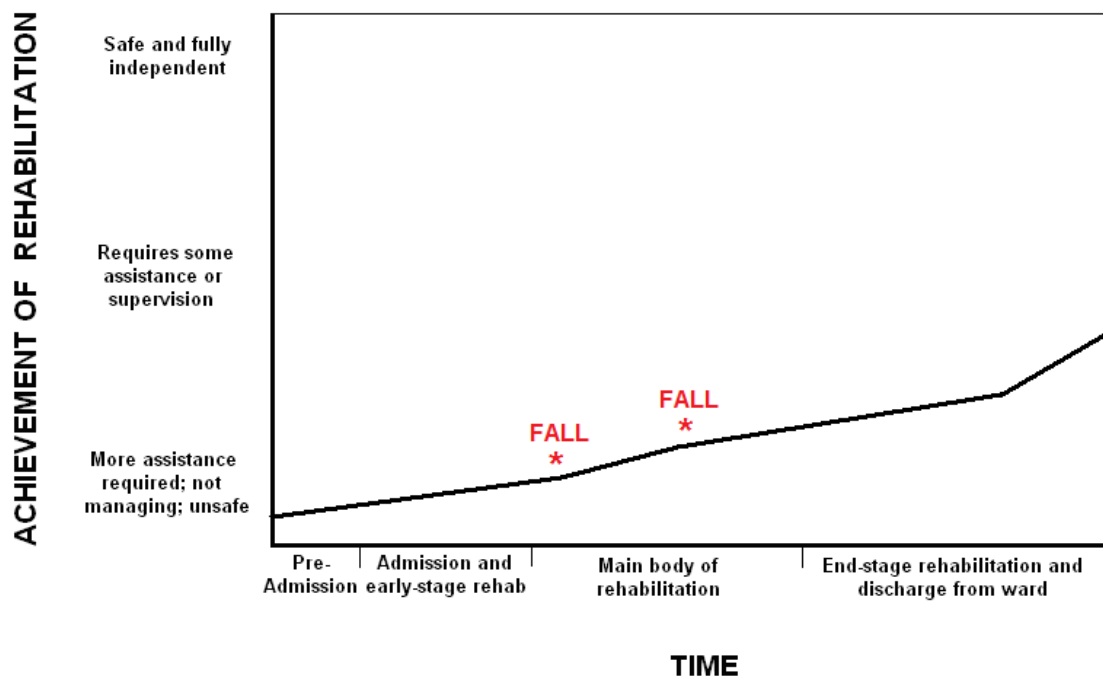


Figure 5.5.3 Effect of a hospital fall on Pat’s rehabilitation trajectory

Even though Pat continued to make subtle improvements in her rehabilitation, the two falls had a fundamental influence on her beliefs and attitudes which was evident in changes to how much assistance she relied upon to function:

“I feel more un-nerved now, more anxious. I try to be more careful”; “decreased confidence...I feel insecure”; “I can only walk with my frame now...I depend on more people”; “I need more assistance with getting on and off the toilet.”

She placed an emphasis on the role of the nursing staff to ensure her safety as well as reporting changes to her mobility that she did not understand:

“If the nurses don’t keep a hold of me I might fall again”; “I prefer assistance...if the nurses were present I wouldn’t have fallen”; “I’m unable to walk without supervision from staff”; “staff have changed my usual walking aid and I don’t know why...I was mobile at home with my stick but now this has been changed to a frame, after my fall.”

Being more cautious with daily tasks, walking and feeling more confident only with the assistance of others was a major change for Pat that only enabled her to gain slow progress with her rehabilitation:

“I’m trying to be more careful now when I do things”; “I don’t do anything...I’m not allowed to transfer myself. This makes me feel more secure.”

Recognising the means of improving her post-fall situation slightly increased her self-efficacy towards the end stages of her rehabilitation, but Pat never managed to achieve being independent:

“If my strength and balance was better, future falls might be prevented”; “the physio gave me new slippers, which made my mobility better”; “I feel insecure...decreased independence.”

#### **5.5.4 Margaret’s experience**

Early in Margaret’s hospital stay she had the belief that: “being in hospital is a problem, and falling is one of the hazards”. She did not have a significant past medical history although she had orthopaedic impairments and previous falls which made her require some assistance with mobilising and functional tasks at the beginning of her rehabilitation:

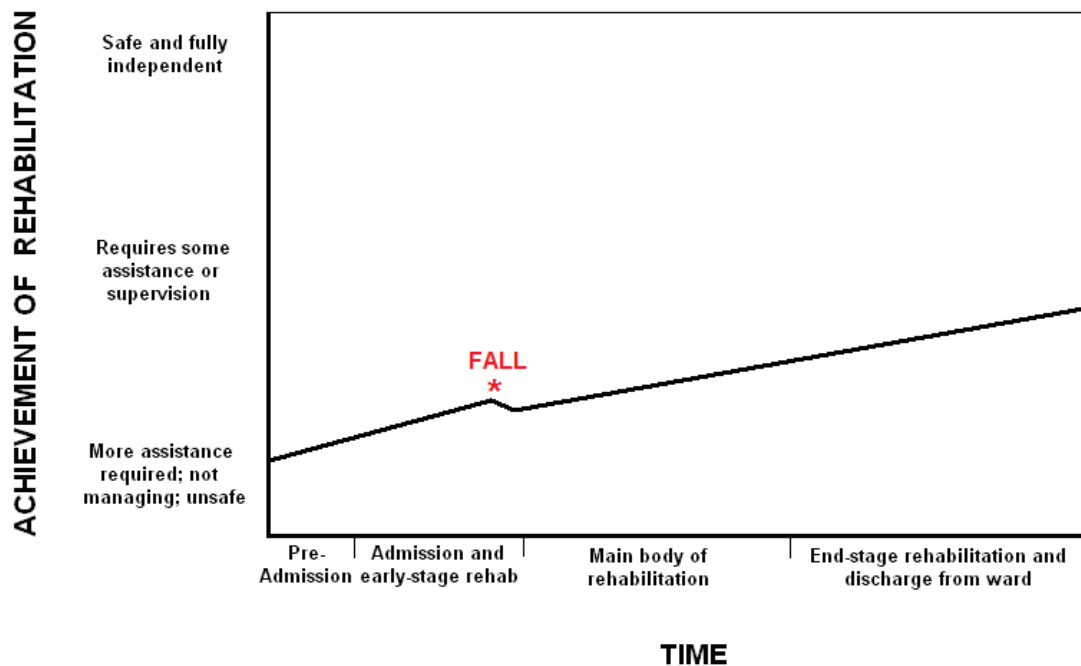


Figure 5.5.4 Effect of a hospital fall on Margaret's rehabilitation trajectory

She reported feelings of low self-efficacy during the time when she fell, blaming herself for her apparent poor choice of mobility:

"I fell between the chair and the bed whilst I was trying to get into bed"; "this fall was stupid, it was my own fault"; "I perhaps did more than what I was capable of...it was my own stupidity."

She experienced a sudden deterioration in her physical functioning immediately after she fell due to an injury sustained during the fall. Of all the participants involved in this study, this was the most serious injury reported, although Margaret did not place much emphasis on it in the remainder of her responses:

"I bruised my left knee and my left hip is swollen. I think there's been an alteration to my hip replacement. I was referred to the doctor because it was so painful. I discovered this when I went to the bathroom. I also have a pain in my chest...my sternum...especially when I cough."

Despite the set-back of her injury, Margaret soon continued to show steady improvements with her rehabilitation, although her reduced confidence was the key factor that acted as a barrier to her making a better recovery:

“I’m concerned I might fall again. This makes life more difficult as I require more help. Falling has affected my confidence”; “I feel my confidence has been most affected...it has decreased somewhat than before the fall”; “my balance is unsatisfactory. I lack confidence. I was overconfident that nothing would happen.”

Margaret was the only participant who reported direct changes to her social life (i.e. personal leisure activities) on the ward:

“I don’t stay up late to watch television anymore as I get shaky...I don’t take chances now compared to my previous normal behaviour.”

Her responses provided a deeper insight into why Margaret preferred assistance with daily tasks and mobility, and illustrated changes in the balance of power in decision-making between Margaret and ward staff:

“I no longer want to take any chances...it’s important to have someone in charge of my actions”; “attachment, respect...I now walk with supervision because someone is in charge...I adhere more to commands given to me for my own good.”

Reduced confidence, altered social behaviour, and relinquishing the responsibility of her actions to others, Margaret continued to slowly improve during her hospital stay but never attained a level of independent functioning as she always required some form of supervision when mobilising around the ward.

#### **5.5.5 Ron’s experience**

Ron’s mobility, physical health and general functioning was the lowest of all participants. He arrived onto the ward after struggling rather significantly at home:



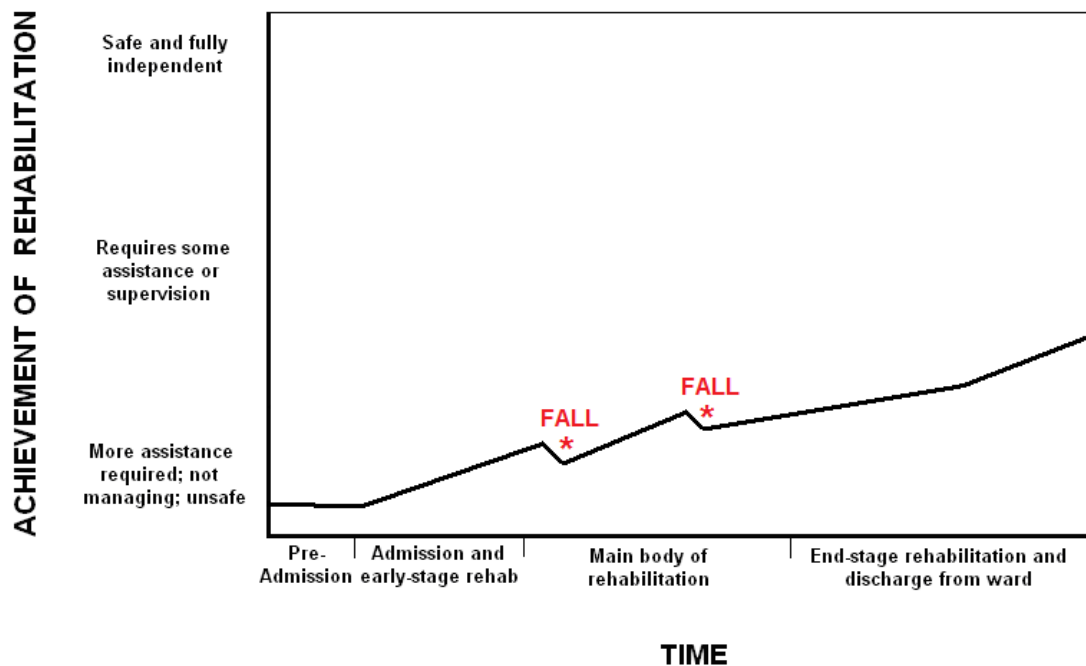


Figure 5.5.5 Effect of a hospital fall on Ron's rehabilitation trajectory

Ron demonstrated having a comprehensive insight into his pre-existing problems, particularly as he described his gait and balance impairments caused by bilateral foot drop, reduced peripheral sensation and poor eyesight:

“I have poor balance...the nursing staff don't understand that they need to walk behind me”; “falling is a problem to me, though less than when I'm at home as there are more staff around”; “decreased balance...my feet have only 25% feeling...decreased movement in my legs - they're stiff and heavy.”

In each of his falls descriptions, Ron fell without warning and was unable to prevent himself from falling to the floor. He required a hoist to be lifted from the floor on his first fall, and relied on a member of staff to stop him from falling during his second fall:

“I was walking with my frame...I was heading towards the dining table. I then lost my balance...so I just fell to the floor”; “the nursing staff used the hoist...I was taken back to my room and was assessed by the doctor”; “I was walking with my frame...I then lost my balance, the nurse grabbed my jumper but she couldn't keep a hold of me so I just fell to the floor.”

Many of his responses focused on his impaired balance, although this was a factor that Ron did not entirely understand the reasons for. This differed from his perceptions of his overall falls risk that Ron was able to describe:

“I have poor balance, but there’s no reason for this given by staff...the nurses don’t know the situation...the doctors don’t know so I have no chance of knowing...I’m not sure how to make my balance better if they don’t know.”

“Yes, I expect to fall again, especially first thing in the morning. This is when my legs are stiff after lying in bed for too long. Also in the afternoon as I tend to sit in the wheelchair too long.”

Ron did continue to slowly improve during the remainder of his rehabilitation, although this was influenced by a range of beliefs, some of which were conflicting. For example, Ron placed value into the role of exercise as a means of improving his mobility yet recognised the inherent risk of falling when walking:

“I do want more exercise but it can be too dangerous. I walk less and less now.”

There were times when Ron felt overwhelmed by the challenges he faced when he attempted to improve his mobility. This was evident in comments he made in stark contrast to the positive responses given regarding exercise:

“There have been changes in how much assistance I need - an increased need for support from staff. I tend to ask of the wheelchair now”; “my frame is no longer suitable - I need a wheelchair.”

“I want to do more exercise...I’m walking less and less...more exercise can increase the strength in my legs...my legs will get worse if I stop using my walking frame.”

Certain positive beliefs and values Ron held, even after his falls, enabled him to progress in his rehabilitation, although conflicting attitudes regarding his mobility and low self-efficacy meant that he continued to require assistance with his mobility and overall daily functioning.

## ***5.6 The patient and staff relationship***

When the attitudes of staff held towards patients (and each other) were examined from the data, it was shown that this was a less-than-positive relationship. Negative views were expressed by staff (Higgins et al., 2007; McLafferty and Morrison, 2004), although there were occasional comments relating to empowerment, respect and patients being treated as individuals (Roberts, 2001). Patients were less involved in their rehabilitation following a fall

as there was an emphasis of staff directing patients through a series of clinical and administrative procedures without considering implications of daily care (Tutton and Ager, 2003). For example, goal-planning could have improved the relationships between patient and staff yet the data showed how this activity was rarely engaged in by the ward teams.

Despite having the responsibility of protecting patients by ensuring their safety, the ways in which language was used and how staff presented themselves demonstrated both positive and negative aspects of staff-patient interaction. In general, staff expressed views and opinions that were altogether positive, although there were occasions when some of their comments seemed neutral or had the potential to be misconstrued (an issue of rigour that was frequently addressed by asking staff face-to-face in group sessions to clarify their point). However, there were several comments made by staff during the course of the research that were clearly negative and represented issues relating to an imbalance - and probable dominance - in the relationship between staff and patients, particularly those with cognitive impairment. These often stemmed from how staff perceived the choices made by patients, including their behaviour, overconfidence with mobility, and assistance with functional activities.

There were three examples in particular that clearly illustrated some of the negative attitudes staff exhibited towards patients that had fallen. The first comment: “a patient can do more when they’re told to...they’re more obedient”, made by Nurse 2, referred to patients following instructions (and not necessarily ‘advice’) to influence their behaviour so that their actions were safer and less likely to result in a fall. The term “obedient” was controversial as it implied patients had a subservient role within their relationship with staff.

Nurse 2’s statement clearly illustrated the shift in power that occurred between staff and patients that became more evident following a fall. A major consequence of experiencing a fall in hospital was patients relinquishing the responsibility for their rehabilitation, thus allowing ward staff more ownership and control over their mobility and daily behaviour. This member of staff’s comment demonstrated how some staff actually preferred this change of power, perhaps as it enabled them to feel more in control of a patient’s safety, despite the negative consequences such as patients feeling disempowered and contradicting fundamental aspects of rehabilitation.

The second comment: “patients can be daft but usually learn their lesson after they fall and don’t do the same thing again” (Doctor 1) was another example of how staff had negative views towards the behaviour patients often exhibited. This opinion encapsulated the belief held by some members of staff that patients chose to perform certain activities that were beyond their physical capabilities and then fell because of their actions. Furthermore, it was believed that patients never repeated the same behaviour again as the fall made them realise how physically impaired they actually were. This was a consequence supported by Kong et al. (2002), who also studied elderly fallers. This inevitably reinforced the belief commonly held by patients that they required more assistance from staff as they were unable to care for themselves, and thus they became less independent. It was accepted by ward staff that patients often chose to undertake tasks in such a way that appeared to be unsafe, or at the very least seemed to be less efficient than what could be expected from a relatively physically and cognitively intact person, as reported by Randers et al. (2002).

Patients were well-known to have their own habitual methods of mobilising, transferring and performing activities of daily living. It was the clinical responsibility of staff to use their professional knowledge to rehabilitate patients so that these habits were made as safe and efficient as possible. It was preferable that patients were as involved as much as possible so as to promote their functional independence (ACSQHC, 2009; Tutton, 2005; Roberts, 2001). However, the above statement (i.e. “patients can be daft”) suggested that patients were allowed a degree of freedom to function yet there was an expectation that some patients naturally made choices that led to a fall. Instead of pre-empting incidents by offering alternative choices through advice and education, staff appeared to hope that these types of patients would learn from their “mistakes”. In the busy, uncontrolled ward environment, with staff clearly working under pressure, the warning signs prior to a fall seemed to go unnoticed. From many of the comments made by participants in both cycles, it appeared as though greater emphasis was placed on managing a fall once it had occurred rather than identifying and addressing the issues that preceded it.

The final comment that partly reflected some of the negative attitudes towards patients as explained above was made by Doctor 1, when past incident report forms were reviewed in some learning group sessions. This member of staff described one patient as being “silly” and not “reliable” due to them being cognitively impaired. It was commonly regarded by several participants that patients with cognitive problems could not be trusted with their own safety. Their behaviour, in terms of their choice of actions and insight into what they could

do safely by themselves, was negatively altered by their cognition. Staff believed that these types of patients naturally had an increased risk of falling yet were generally incapable of stopping themselves from falling. Patients would typically fail to retain information given to them by ward staff, and it was common for patients to mobilise by themselves, despite having balance problems which would indicate not to perform such activities without help from staff or walking aids:

Nurse 1: "Patients usually forget what you've told them and so keep repeating the same mistakes."

Nurse 4: "Patients often lack insight into the consequences of their actions. They don't always realise that what they do can result in a fall."

Support Worker 3: "Patients have poor insights into what they're actually capable of."

Nurse 5: "Patients often have more problems than they actually realise."

Doctor 1: "We all know patients can be daft"; "[the patient] was just being silly...they aren't always reliable."

Support Worker 2: "Some patients will always walk independently and fall, so we need to decrease the risks."

Support Worker 5: "Patients don't always regard themselves as being 'disabled'."

Staff Nurse: "Remind patient to mobilise with his wheeled Zimmer-frame (he had walked without aid). Patient suffers [sic] confusion, therefore unable to predict his movement." [Excerpt from incident report]

Staff Nurse: "We are going to try to write information down reminding him he needs assistance." [Excerpt from incident report]

As staff assumed more control over patients' rehabilitation, this altered the balance of influence over making decisions, which placed staff into a very powerful position (Tutton and Ager, 2003). The same staff also demonstrated certain negative attitudes towards patients which partly accounted for the psychological consequences in the post-fall phase. This culminated in outcomes which were less favourable for patients even if they initially believed staff had a positive impact on their time in hospital.

There was a sense of staff not trusting the decisions made by patients (e.g. patients could be "unreliable" and "lack insight") which created the belief among staff that they needed to help patients otherwise they would be likely to fall. It was evidenced by the similarities in the

language used by patients and staff that these negative attitudes were reinforced by staff. Furthermore, patients believed that falling was their own fault, and therefore considered extra support from staff to be an essential means of preventing future incidents. This change in beliefs then impacted at a behavioural level as patients were more reluctant to make decisions independently, which was a consequence also found by Kong et al. (2002). Thus, patients relinquished the responsibility of their rehabilitation to staff, who responded by accepting greater control - and greater influence - over patient outcomes.

### ***5.7 Restrictions imposed to patients' mobility***

One of the main themes highlighted by the study, and a key feature of patients' experiences and functional outcomes, were the changes that occurred in mobility. This was related to patients who relinquished the responsibility of their rehabilitation by giving more control to ward staff. In doing so, patients expected staff to provide more assistance as this was considered to be a crucial strategy to ensure their safety. The consequence of this was fewer opportunities for patients to work towards optimal, functional independence, and for staff to promote the aims of rehabilitation that they initially stated they adhered to.

#### ***5.7.1 Self-imposed restrictions***

One of the most important examples to illustrate the changes in power and independence was the issue of self-imposed and carer-imposed restrictions to mobility. This demonstrated the difference between patients needing and wanting support from staff - a factor that ultimately led to changes in patients' mobility. The former could be regarded as the required need for assistance from another person(s) so as to aid the safe and efficient completion of a functional (mobility) task. If a patient required help from staff at any point during their stay in hospital, regardless of whether they had fallen or not, then it was only appropriate that they received this support. The alternative approach to this was if a patient simply preferred an additional person(s) to be present - not because they actually needed the assistance, but rather because they either expected or preferred the extra assistance.

It was important to distinguish between the two examples so as to appreciate the long-term consequence of adopting the latter approach. Patients had explained that they required additional help after they fell, but it was not clear at which point - if at all - they had regained

enough confidence or physical ability to no longer need that help. What was more obvious from their responses, however, was that the continuation of increased assistance from staff encouraged greater reliance on external support. Patients were not 'weaned' from this assistance which only propagated poorer outcomes in the long-term, including increased length of stay in hospital, decreased mobility, and a greater likelihood of being discharged to a nursing home rather than to their own home; this was a similar finding by Aditya et al. (2003) who explored issues surrounding patients' discharge planning.

Reduced confidence was the leading factor that encouraged patients to restrict their own mobility; this is supported by the work of Hellstrom et al. (2009), Yardley et al. (2005), Delbaere et al. (2004) and Vellas et al. (1997). Patients reported changes to their confidence throughout their experiences, particularly if they fell a second time. Even if patients displayed a stoical or nonchalant attitude by simply wanting to resume their rehabilitation, this gradually changed after they fell. Falling was a traumatic event for all of the patients, even if their initial responses did not verify it. However, their further responses showed how they made alterations to their lifestyles, such as fear-avoidance strategies and compensatory methods of performing functional tasks (Hellstrom et al., 2009; Delbaere et al., 2004; Kong et al., 2002).

Each patient described changes to their mobility that occurred after they experienced a fall. Rather than continuing with aspects of their rehabilitation and daily lives in a way that they were previously used to (i.e. before they fell), patients would exercise greater caution when they walked and performed functional activities, and would seek assistance if they felt that the task was beyond their capabilities to complete safely. This was a strategy they employed prior to falling; however, the threshold at which they believed they were unable to perform a task safely was reduced after they fell. Therefore, their experiences showed how a fall altered their perceptions of safety and self-efficacy with performing functional activities. In this way, patients purposely restricted what they did by themselves, albeit with what they believed to be good intentions. They did not limit their own freedom of movement through any self-deprecating motives, but rather as a means of functioning in response of their fear of falling.

### **5.7.2 Staff-imposed restrictions**

Staff imposed both physical and verbal restrictions to patients' mobility. The findings have clearly established that staff offered more physical assistance to patients, including 'hands on' support and the use of equipment that enabled the safe completion of tasks. However, the reasoning that underpinned the use of equipment etc. was based on necessity and safety (Kneafsey, 2007), yet was not entirely balanced with the promotion of (more) active effort on the part of the patients. In this way, patients became less challenged by daily activities and were not encouraged as much as what they could have been to become more independent. This was of critical importance considering the aims of rehabilitation and the functional measures staff used to determine whether a patient was safe enough to be discharged back home again, especially if they lived alone with or without care services.

Staff were known to tell patients not to mobilise by themselves, as this was documented in the majority of incident report forms. Comments made by staff in the learning groups also showed how they expected certain patients to fall, and therefore attempted to pre-empt any hazardous situations by advising patients to either remain immobile (i.e. stay seated in a chair or in bed) or to summon for assistance if they wished to walk. Their reasoning once again focused on safety yet there was also a sense of using verbal persuasion to minimise patient movement so as to give staff less to concern themselves about; this point was also raised by Benten and Spalding (2008) and Higgins et al. (2007). This was not a means of neglecting patients or having a lackadaisical attitude, but rather a strategy employed to manage patients under time pressures and inadequate staffing levels (Higgins et al., 2007). Staff believed that they knew which patients were most likely to fall, and these also tended to be the most problematic in terms of requiring regular supervision, assistance with medications, and support with toileting and personal hygiene etc. Therefore, by advising these patients not to walk this not only reduced their level of falls risk, albeit in the short-term, but also relieved the pressures on staff who could distribute their efforts more uniformly across the ward. As long as the patients were safe then staff felt as though they had been successful in preventing falls. However, this approach lacked the adherence to the principles of rehabilitation - primarily patient empowerment, choice and independence, as defined by WHO (2009) and Pryor and O'Connell (2008).

### **5.8 Professional culture**



The various examples of ineffective team-working and dissonance between members of staff highlighted a professional culture on the two wards that displayed strong elements of inequality, status and power. There was a clear difference between the qualified and non-qualified staff, with the latter usually having more clinical contact with patients yet less say in decision-making. Even within the qualified staff there was a culture dominated by the medical consultants in terms of having the most authority over the management of patients (Clark, 1997; Cott, 1997; Long, 1996). It was not unusual for the nursing staff to make decisions surreptitiously that contradicted the advice of their medical and therapy colleagues; this was an historic attitude identified in a study by Fagin (1992).

### ***5.8.1 Differences in professional outlook***

One of the most significant areas of dissonance between members of ward staff, that directly impacted on the provision of rehabilitation and falls prevention, was how staff viewed the context of their interaction with patients and with each other (Gregory and Haigh, 2008). The nursing and support staff had strong opinions on this issue, and displayed different attitudes towards their contact with patients in comparison to their medical and therapy colleagues. This difference caused conflict between the nurses and the therapists who reported approaching rehabilitation with fundamentally different professional aims in mind, despite all staff showing an initial mutual agreement of the definitions of rehabilitation. Therefore, it appeared that the dissonance occurred in the interpretation and implementation of rehabilitation in relation to their own clinical practice (Atwal et al., 2007).

There were a number of factors that influenced how staff perceived their roles and responsibilities as healthcare providers. Firstly, the nursing staff frequently commented on the quantity of contact they had with patients compared to other professionals (Higgins et al., 2007). Clinical time spent with patients, particularly in the evenings and at the weekends, was regarded with significant importance by the nursing staff (Gregory and Haigh, 2008). With the medical and therapy staff working standard full-time hours during weekdays only, whereas the nurses were constantly on duty, there was a belief that they had a far greater insight into the capabilities of patients (Higgins et al., 2007). This also meant that the nurses felt more responsible for the well-being and safety of patients.

Having more contact with patients partly defined how the nursing staff saw themselves within the larger team, that is, as the primary care-givers. The availability of resources (e.g. walking aids, specific “therapy areas” etc.), professional training/background, staffing levels and time were all critical factors which reinforced the nursing staff’s position of authority (Benten and Spalding, 2008). They believed they had a stronger voice regarding ward matters in comparison to other health professionals, and should have commanded more power and respect from NHS managers and other ward staff (Higgins et al., 2007; Clark, 1997; Cott, 1997). Therefore, the nurses felt that they had greater autonomy and interacted with patients in a way suitable to satisfy a certain type of functional need, even if this meant implementing strategies which did not entirely support the advice given by other ward professionals (Kneafsey, 2007). This functional need was essentially the difference between care and rehabilitation.

The nursing staff placed more emphasis on the overall management of patients’ care (Tzeng and Yin, 2008). Priorities included washing, dressing, eating, drinking, toileting, medicating, and basic mobility. The nursing staff described not necessarily focusing on the quality of these movements but rather their aim was to complete each task safely and time-efficiently because they believed they simply did not have enough time or staffing resources to approach tasks in any other way (Higgins et al., 2007). Nursing and support staff believed that they were primarily employed to care for patients - to help with daily activities to make their stay in hospital as less problematic as possible. However, their beliefs and attitudes were not always aligned with the aims of rehabilitation. For example, rather than exploring patients’ potential to perform actions more effectively and autonomously, often by presenting them with personal challenges and strategies to develop their functioning (Skelton, 2006), the nursing staff tended to focus more on the safe, timely execution of tasks. They argued that they did not have enough time to focus on other factors, and thus relegated these elements to the therapists (Gregory and Haigh, 2008); this was why therapy “staff are there for” (Nurse 6).

The therapy staff felt that they had a more specific purpose on the ward which was more aligned with the aims of rehabilitation. They actively encouraged patients to do more for themselves (Skelton, 2006), but a significant part of this was because they had the time and the resources to do this, whereas the nursing staff believed they did not. Their clinical training and professional background were recognised by other members of ward staff (Gregory and Haigh, 2008) and the therapists were recognised for this, yet this was not

always reciprocated as the nursing and support staff felt “undervalued” and “at the bottom” (Nurse 6) (Higgins et al., 2007). This was perhaps because they felt limited in not being able to deliver the type of rehabilitation that they believed they were capable of doing, and also because they did not receive the respect they thought they deserved for the work that they did.

The difference in how the nursing and therapy staff approached their clinical contact with patients was the root cause of much of the interprofessional conflict as well as the confusion experienced by patients as to what was expected of them (Benten and Spalding, 2008) and what was acceptable in terms of how much assistance they required. Both groups of professions believed they were acting in the best interests of patients as well as adhering to the aims of rehabilitation, yet the data showed different professional outlooks which inevitably impacted on patient outcomes and experiences.

### ***5.9 Evaluating the research***

It was vital that participants understood the purpose of the research so as to create a discursive forum in which individuals’ viewpoints, beliefs and values were shared amongst each other (Gibb et al., 2002). Staff were encouraged to work towards a common goal (McCallin, 2001) of developing their practices so as to improve methods of falls prevention (Garman et al., 2005). Participants needed to feel that they could openly express themselves without the fear of embarrassment, retribution or strong criticism - even if they knew their opinions were likely to cause conflict or disagreement (Nash and Govier, 2009). This was particularly relevant for cycle two, as Robertson (2009) supported the need for egalitarianism to be facilitated in group sessions. For example, the lack of inclusion of the ‘unqualified’ staff (i.e. support workers and therapy assistants) in the weekly multidisciplinary ward meetings set a general precedent of being excluded from team discussions (Wells et al., 2010); the purpose of cycle two aimed to overcome this by facilitating interprofessional collaboration at all levels.

#### ***5.9.1 Preventing adverse effects***

Many of the issues discussed in the group sessions, particularly the dissemination of cycle one's results and the analysis of incident report forms, raised fundamental questions regarding the quality of care and rehabilitation provided by the ward staff. Naturally, this evoked strong personal and professional responses from the participants. Due to the sensitive nature of the CLG topics and the research method itself, it was easy for staff to feel threatened by some of the points made by others within the group. There was an acceptance that being involved in the research could generate the potential for reward (e.g. by supporting the Trust, professional development and better patient outcomes) or retribution (e.g. negative comments made against the Trust, patients or other members of staff).

There was always the potential for certain negative effects to have been fostered through the collaborative learning process. These included participants lacking belief and distrusting new ways of performing clinical/operational tasks; anxiety of the implications of such changes (Bridger, 1992); participants feeling threatened by disruptions to the status quo (Field and West, 1995); and fear of expressing views that were likely to either cause offence or be challenged by others (Clark, 1997). The key factor was how to control and manage the research so that these negative consequences were minimised, thus promoting a positive learning experience for ward staff (Duffin, 2010; Nash and Govier, 2009). This was achieved partly by the use of a named person for emotional support; by encouraging all participants to express their opinions freely and without hindrance (this was directly influenced by my roles as group facilitator and researcher); and finally, by providing participants with the motivation to support changes (Portillo, 2008; Ross et al., 2005).

Motivation came from describing to participants the intrinsic and extrinsic benefits of being involved in the study e.g. overall improvement to rehabilitation services and falls prevention, better patient care, greater job satisfaction, enhanced communication between staff, more effective team-working through joint-working practices, and the creation of opportunities to share learning (Batorowicz and Shepherd, 2008; Roe et al., 2008; Atwal et al., 2007; Thylefors et al., 2005). By protecting each participant from emotional harm and by providing as much of a positive experience as possible, greater meaning was placed on staff involvement. This resulted in a more consistent attendance and a deeper sense of belonging to the research groups (Duffin, 2010), measured by the quality and quantity of

comments shared by participants (Williamson and Prosser, 2002; Coghlan and Casey, 2001).

### ***5.9.2 Transforming reflection into action***

One of the main disadvantages of requiring participants to examine their position within the organisation was that the research could have generated considerable self-reflection but with little effect (Williamson and Prosser, 2002). The ultimate goal of the CLGs was to create change within the Trust, partly by encouraging ward staff to evaluate their current roles and responsibilities in falls prevention. Completing only the first aspect of this process would have resulted in only a partially successful study. Greater effectiveness came from adherence to the original aims of the study and the generation of meaningful changes (Duffin, 2010), that is, transforming reflection into action. The CLGs provided a way forward for staff to continue to develop strategies and ideas (Gibb et al., 2002). This was particularly important as staff had reported feelings of a lack of support from managers to develop ideas and innovation (Batorowicz and Shepherd, 2008; Thylefors et al., 2005; Reilly, 2001). The CLGs provided the basis for discussions on innovative methods of preventing falls and improving interprofessional practices (Gibb et al., 2002). Staff expressed their ideas freely and challenged existing ways of working, including critically appraising Trust protocols and procedures. The CLGs identified areas in which staff could take their ideas forward and begin to implement them into their daily clinical practice, either as individuals or as a collective interprofessional group of healthcare providers.

### ***5.9.3 Commitment to change***

The key factor in ensuring the study made an impact on the two wards was the development of knowing in practice (Tolson et al., 2006) that facilitated service improvement. It was made clear to participants at an early stage that the study was more than a theoretical piece of work. This was a pragmatic research project that facilitated changes in the provision of rehabilitation and falls prevention. The study was enhanced by a collective commitment by staff towards developing change (Tolson et al., 2006; Garman et al., 2005). Their participation was essential in fulfilling the aims of the research, and the

outcomes would have inevitably been less meaningful to all stakeholders if staff were not involved (Duffin, 2010; Dempsey, 2008).

There were many ways in which staff demonstrated their commitment to change, including their initial decision to participate in the study. Simply by being involved meant that they had placed themselves into a situation that could produce many benefits, such as professional and personal development, safer conditions for patients, better quality of care, gaining new knowledge and skills etc. (Nash and Govier, 2009; Batorowicz and Shepherd, 2008; Thylefors et al., 2005). It was acknowledged at various points of the study - particularly at the beginning, when staff asked the most questions regarding the nature and structure of the project - that participants were aware of the likelihood of areas of dissonance being discovered through possible disruptions to the status quo, challenges to existing power relations and conflict between participants and managers (Wilson, 2005; Williamson and Prosser, 2002).

Staff maintained a positive attitude towards their involvement, even though staffing levels often interfered with attendance rates. They showed an active interest in the purpose and development of the study. Participants were expected to contribute to the points of discussion and to bring any issues to the meetings that they felt needed to be debated. Their behaviour reflected their intentions when they demonstrated a willingness to engage with each other, both in and out of learning group sessions, such as when discussing ward-based falls prevention strategies and supporting ideas to enhance interprofessional team-working (Garman et al., 2005; Bennett-Emslie and McIntosh, 1995). This also included an increased awareness of their own clinical practice (Kemmis, 2009) as well as their interaction with other ward staff e.g. joint-sessions with other professionals and students, the implementation of a staff communication book etc. Further commitment to change occurred when participants began feeding back their experiences of being involved in the CLGs and examples of changes to their clinical work (Gibb et al., 2002).

#### ***5.9.4 Changing practice and service improvement***

The primary aim of this study was to facilitate changes within a clinical setting through the collaborative efforts of healthcare professionals. The research aimed to target the ways in which these professionals approached their clinical practice by improving their knowledge of

falls prevention and rehabilitation, as well as raising their awareness of key issues expressed by the patients under their care. This was a pragmatic approach that was grounded in authenticity generated by the findings of cycle one. The study was underpinned by an action research methodology that focused on the identification of potential solutions to the problem of elderly patients falling when in hospital (Kato et al., 2008).

#### **5.9.5 Staff involvement**

Changes to the rehabilitation service and how staff approached falls prevention were generated by facilitating collaboration between ward staff through a series of educational focus group sessions. This was not necessarily the same as changing the structure of the team, although this can be a natural consequence of closer working practices (Sheehan et al., 2007; Gibb et al., 2002). Cycle two was fundamentally concerned with using the process of staff collaboration to change clinical practice. To achieve this it was important that staff became more involved in the project, felt more as co-researchers and assumed greater ownership (Portillo, 2008; Ross et al., 2005; Williamson and Prosser, 2002; Coghlan and Casey, 2001).

Wiechula et al. (2009) conducted a realistic evaluation methodological study into improving the fundamentals of care for older people in an acute hospital setting. The aim of their study was to evaluate the effectiveness of an established intervention that addressed seven areas of practice. Most of these were related to patient safety (i.e. falls risks), including functional decline, confusion, continence and pain management. There was a strong educational element to the intervention program, with supporting activities to facilitate learning within the interdisciplinary teams. The study was performed over an 18-month period, whereby evidence-based guidelines, practice protocols, local audits and safety reports were utilised to build upon existing systems and processes.

Following the implementation of an education program and the introduction of the Abbey Pain Scale there was an increase in staff knowledge and the use of the Abbey tool in 75% of applicable patients. The seven teams that comprised a hospital-wide program examining functional decline in the elderly had 37% of patients decrease their functional level over their admission for the initial audit. At the follow-up audit no patients had a level of functional decline and 92% actually increased their functional status through their admission.

The research demonstrated positive improvements in care, particularly in relation to practice standards and patient outcomes. Success was not measured in all clinical areas, although the teams were able to define the specific issues that required further investigation. Therefore, the authors concluded that the care of older people could be improved despite patient outcomes being varied. Common themes that underpinned the barriers and facilitators of success included congruence between adherence to protocols and relevant patient outcomes; systematic and individual assessments were required to effectively communicate information to patients and staff; and staff needed to increase their knowledge of issues pertinent to their clinical area (Wright et al., 2007).

#### ***5.9.6 Developing evidence-based practice***

As part of the educational element of this study, current literature was presented to members of ward staff. The purpose of this was to raise their awareness of best practice guidelines with regards to assessing (screening) for falls risks, treatment planning, implementing effective prevention strategies, and to improve their knowledge of rehabilitation and teamwork. Tolson et al. (2006) conducted a participatory research project that aimed to develop approaches to promote evidence-based nursing care in collaboration with practitioners and older people. Practice development was reported to occur at the individual level, and was integral to improving patient care (McCormack et al., 2004). Definitions of practice development have placed an emphasis on the improvement of person-centred care through strategies to facilitate and support professionals in developing their knowledge and skills (Garbett and McCormack, 2002). Measuring the benefits of practice development was found to be difficult as it required the consideration of relationship networks between all those involved.

Tolson et al. (2006) used four action cycles, over a five year period, to develop a virtual online college whereby 75 participants from a nursing background could select and provide guidance on best practice that would reflect a practice model and philosophy of care that was acceptable to both nurses and older people. Ten principles underpinned the process of developing the virtual college, and encompassed the essence of person-centred care, interdisciplinary team-working, equity, and utilising approaches to enable and support



others. A procedural model was assessed by applying it firstly to the promotion of nutrition, and secondly, its capability to detect and prevent depression.

In the third cycle, the research team contacted 15 participants via semi-structured telephone interviews to determine the experiences of working with the virtual college. From these, five significant factors were established that were responsible for the effective facilitation of a transition towards best practice: being a member of a community of practice; understanding gerontological nursing; sharing innovation aims; understanding best practice; and creating resources for practice development. Despite certain differences in context, these factors provided an important insight into the guiding principles of this PhD study.

Another key facilitator, also identified by Ross et al. (2005), was the role of leadership as an appropriate mechanism of facilitating change by integrating evidence-based practice guidelines into participants' working practices. An advisor worked in collaboration with participants and aided the direction of the study groups, ensuring that the agenda was aligned with the descriptions previously identified to constitute best practice.

The study was concluded by a description of how the project provided an opportunity to understand practice development and approaches to work with healthcare professionals and older people. The authors believed a major strength of using an action research methodology was the potential to develop knowing in practice. Communities of practice can become empowered to become communities of inquiry (Friedman, 2001). The generation of knowledge and development was found to be firmly embedded within the collaborative partnership. This was enhanced as practitioners redefined their own roles and became critics of practice. Participants adhered to a sense of ownership as they discovered the value of practice, experiences and the preferences of older people in relation to a more conventional evidence-base (Tolson et al., 2006).

#### ***5.10 The role of the researcher***

My involvement in cycle two had dual elements of adopting the role of researcher ('part-outsider') and clinician ('part-insider'), with first-hand experience of the staff and ward environment. A dual role was necessary to achieve collaboration and to help participants understand the experiences of patients (Olshansky et al., 2005). An active partnership with

participants enabled me to empower staff, increase trust and encourage a sense of ownership with staff by enabling them to feel part of the research team (Dempsey, 2008; Olshansky et al., 2005). Staff were aware that I had come from an external academic organisation to conduct research with them on falls prevention. This fulfilled my position as 'part-outsider' which afforded me enough ethical freedom to challenge the micro-political climate and to make appropriate interpretations based on what was experienced during the learning group sessions (Williamson and Prosser, 2002). Observations were made and issues were discussed that would have been considered too controversial under normal, working conditions.

The status quo had to be appropriately challenged because the Trust had already established that a problem with falls rates was unacceptable. Having this position in the group meant that 'real-life' working issues could be explored with a relative degree of objective scrutiny (Williamson and Prosser, 2002). However, with this freedom came a heightened sense of responsibility to remain true to the research aims and to ensure that discussions between participants were facilitated without causing conflict or harm (Day et al., 2009). Therefore, the challenge of cycle two was the need to support the staff by refraining from accusing any particular individual or profession of failing to prevent falls, and supporting the Trust by highlighting the need to change practices to address a significant problem.

The CLGs generated a wealth of meaningful information relating to falls prevention, team-working, risk management, and attitudes towards rehabilitation etc. (Duffin, 2010; Dempsey, 2008). This information was used to inform decisions within the group sessions, such as when deciding on the topics for future discussions; it was changing practices within practice (Kemmis, 2009). Being a part-outsider gave me the freedom to present a wide-range of topics to participants. For example, I could choose the subjects most relevant for the aims of the study without feeling the necessity to appease others.

Topics were brought to the CLGs that were expected to evoke a strong - though not harmful - response from participants. The study would have failed to meet its aims had the issues most pertinent to patients and staff not been explored. It was my role as researcher to manage these situations diplomatically whilst maintaining a degree of ethical and moral distance from the participants (Williamson and Prosser, 2002). Participants could be challenged in ways that would have been inappropriate had I been a pure 'insider',

restricted by the political and professional subcultures of the wards (Spalding, 2009; White et al., 2004; Clark, 1997).

Part of my responsibility was to ensure each CLG was an open forum for discussion - an environment that was protected from the political restraints of being part of a wider organisation (Day et al., 2009). Freedom of speech and continuous dialogue were promoted from the very beginning (Trondsen and Sandaunet, 2009) and all participants were encouraged to express their views. It was clear that staff felt that they could talk openly on certain issues within this neutral environment, despite knowing that I was previously a clinician on the wards. For example, the nursing and support staff were very candid in their opinions of the ward therapists. They regarded me as a neutral partner in the research, that is, someone with a specific interest in falls prevention who had chosen to perform research with staff.

Participants did not regard my presence or the study itself as a threat to the status quo (Williamson and Prosser, 2002). Staff had an 'active voice' that helped reaffirm their trust in me as an outsider (Portillo, 2008). When participants began to engage in flowing dialogue this created opportunities to explore and gain knowledge within the social and cultural context of the wards (Trondsen and Sandaunet, 2009).

There were times when the balance between sufficiently challenging participants and preventing an adverse reaction to the chosen subject of debate had to be carefully managed. A shift in this balance could have impacted on the trust between participants and I, and could have altered their acceptance of me as a researcher (Robertson, 2009; Olshansky et al., 2005). This would have inevitably changed the quality of collaboration and potentially resulted in a different outcome for the study. Therefore, acting as a 'part-outsider' enabled me to fulfil my role as group facilitator and researcher (Robertson, 2009), thus improving the conduct and outcome of the research project.

My role as 'part-insider' had been established by previously working as a physiotherapist on the two wards, albeit on a part-time honorary basis. There were no foreseeable adverse effects or conflict serious enough to compromise the integrity of the study. Staff were always aware of my part-clinical/part-research post. Recruiting participants in action research studies can be difficult (Portillo, 2008; White et al., 2004; Tutton and Ager, 2003) yet good working relationships had already been established with many of the participants

prior to the research period that inevitably enhanced the recruitment process and facilitation of the CLGs (Robertson, 2009). I could observe the contrast between the implementation of Trust policies, procedures and guidelines, and the pragmatics of daily working life (Williamson and Prosser, 2002). For example, as an external researcher, I was interested in the information the Trust had obtained on falls incidents; as a 'part-insider', I could empathise with ward staff when they complained of a lack of time, staffing levels and reduced motivation to complete these report forms. However, this highlighted a common ethical and political dilemma in action research, whereby researchers can often find themselves more 'exposed' due to closer collaboration with participants (Williamson and Prosser, 2002).

The research gave me new insights into the organisation that I was formerly a part of, and this phenomenon was shared by other participants who had also gained a more intimate understanding of their role within the Trust (Williamson and Prosser, 2002). In particular, participants had developed closing working relationships with each other, borne from a deeper appreciation of their individual and professional contributions towards falls prevention on the wards (Garman et al., 2005). My role as group facilitator was integral to this, and complemented my 'part-insider' position within the study, including enhanced levels of trust and communication with participants (Tolson et al., 2006; Olshansky et al., 2005).

#### ***5.10.1 Researcher credibility***

To prevent any compromise of my credibility as a researcher, it was important to involve participants in the process of evaluation. Otherwise, they could have taken exception to not being able to respond to the data, particularly the more sensitive issues that arose during the research (Dempsey, 2008; White et al., 2004). Staff could have legitimately questioned my integrity, suggesting bias as the confounding factor to any controversial findings. It could have also been suggested that by previously working as a physiotherapist on the wards influenced my perception of the staff e.g. that I had a natural affinity with the therapy team more than the nursing or medical personnel. It was necessary to answer any enquiries so as to help staff understand the context of the data and to develop an appreciation for the complexities in implementing changes (Olshansky et al., 2005).

I had to consider my own role and interests (Portillo, 2008) in terms of how I co-constructed the data with the participants. For example, action research is partly concerned with gaining knowledge of practices (Kemmis, 2009) yet new understandings can be created through the collaborative process itself (Tolson et al., 2006; Tutton and Ager, 2003). Therefore, my involvement was not necessarily a threat to the credibility of the data but was a position that was capable of gaining more of a context-related insight (Trondsen and Sandaunet, 2009). It was essential that I upheld the principles of being an action researcher, including the need to remain faithful to the participants whom had engaged in the collaborative learning process with me and shared the same rights as I had to the findings (Williamson and Prosser, 2002).

### ***5.11 A way forward for service improvement***

One of the central aims of the study was to facilitate service improvement, primarily in the area of falls prevention, by educating staff - via group discussions - on issues that had been generated by patients who were under their care. The research highlighted areas of resonance and dissonance between participants that encompassed physical, psychological and social factors. Figure 5.11 illustrates potential opportunities for the NHS Trust in which the study was conducted to move services forward. It showed how improvements could be made through the development of a closer working relationship between patients and staff (Benten and Spalding, 2008; Atwal et al., 2007). At the core of this relationship was the need for better mutual understanding and cooperation (Roe et al., 2008; Tutton and Ager, 2003). Various factors were shown to be integral to achieving this, including more active involvement of patients in their own rehabilitation, and greater promotion of patient-centred care:

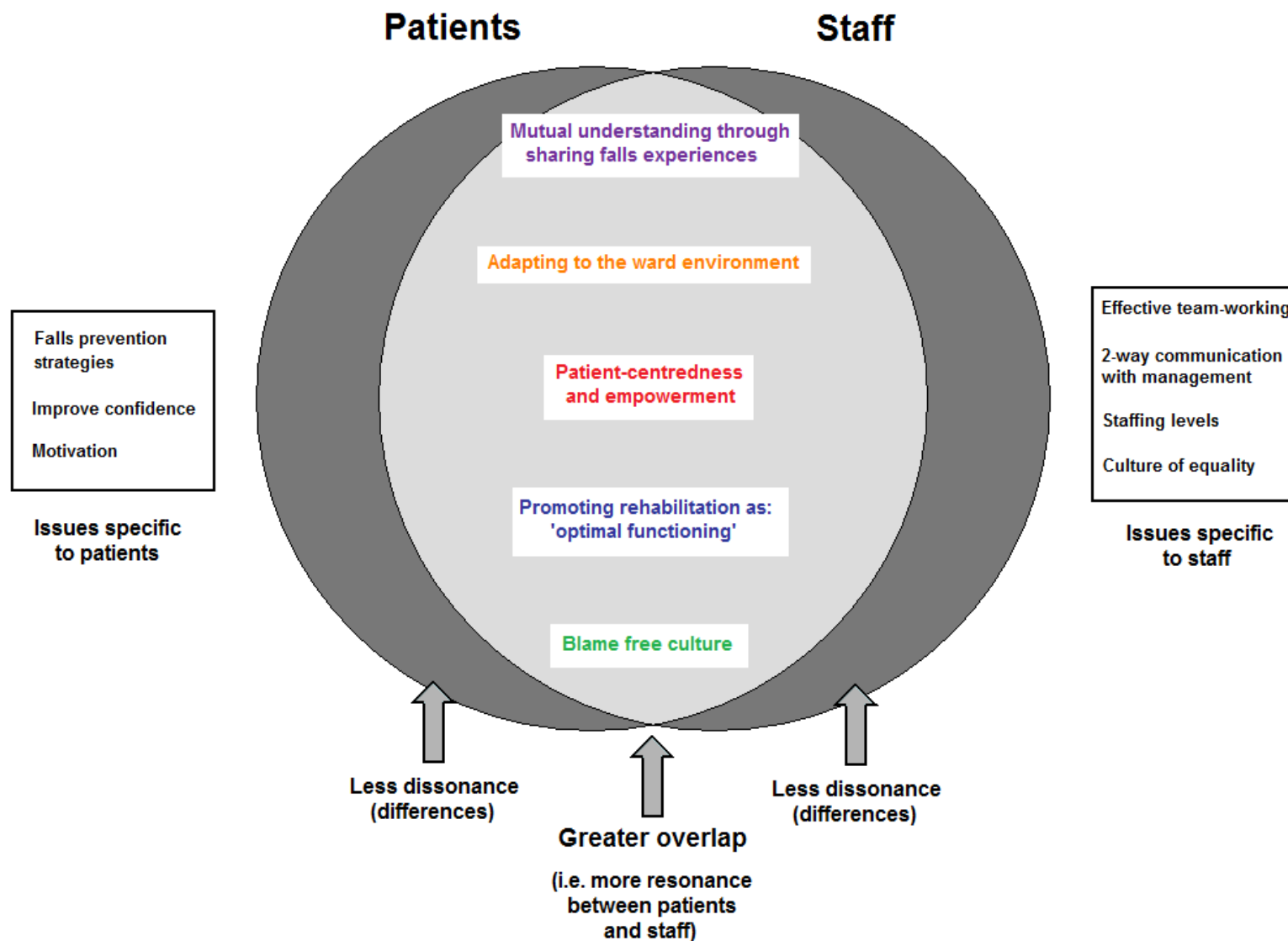


Figure 5.11 Promoting resonance: a way forward for service improvement

The experiences of patients and staff highlighted the need to minimise the areas of dissonance, and to increase the issues that resonated between patients and staff (illustrated as a greater overlap). In this way, staff would have been able to empathise with patients on a much broader level by finding a common-ground of beliefs and values (Sorrell, 2010; Brunero et al., 2010).

#### **5.11.1 Patient centeredness**

To make the transition from how the wards presented at the time of the study (Figure 5.2 on page 207) to adopting the approach set out in Figure 5.11 as a potential way forward, staff had to re-orientate their clinical practice so as to bring patients to the fore of the hospital rehabilitation environment. Their current interventions, including assessments (e.g. risk tools, incident reports etc.) and treatment modalities, did not create the necessary changes required for patients to achieve 'optimal functioning'. Physical improvements were naturally gained over the course of patients' hospital stay but psychological factors, such as confidence, being extra cautious and fear of falling, acted as barriers to patients feeling empowered to make positive lifestyle choices (Hellstrom et al., 2009; Delbaere et al., 2004). What was evident throughout the patients' responses was a sense of a fundamental change in their beliefs and values that influenced their daily behaviours. This change was generally negative and self-limiting and reinforced their low self-esteem and self-efficacy when they performed functional activities, such as walking, washing, dressing and toileting.

The findings have shown how patients felt disempowered to take responsibility over many aspects of their rehabilitation. They were effectively removed from the focus of the service by an obligation of the staff to manage risks and safety, particularly under the pressure of working with a perceived lack of managerial support and inadequate staffing levels. Patients were not always regarded as individuals, with their own unique set of circumstances and understandings. Information was not sufficiently conveyed by staff to patients, as this was necessary to educate them on important matters such as the purpose of interventions, including the reasons why they fell, what they needed to do to prevent future falls, and how these were fundamentally connected to rehabilitation. Patients needed to be seen to be the focus of all interventions (Tutton and Ager, 2003; Stewart, 2001) so as to provide a means of addressing their physical, psychological and social concerns, both in the short- and long-term. The re-positioning of patients within clinical practice, as well as an enhanced

understanding of their lives is reflected in the model as being at the centre of the change (improvement) process.

The sharing of falls experiences between patients and staff was critical to aid a mutual understanding. Participants acknowledged definitions of falling but did not always recognise the wide-range of factors associated with the problem. Patients needed to be educated more on the aims of rehabilitation, and encouraged to actively participate in therapeutic activities and goal-planning. Staff recognised the benefits of gaining more details from patients when assessing (i.e. risk tool) and documenting (i.e. incident reports) falls. This would enable a more comprehensive understanding of each incident as well as facilitating a closer-working partnership between patients and staff, in conjunction with patient education and goal-planning.

Taking joint responsibility would help to develop a change in the ward culture whereby patients and relatives would no longer be perceived by staff to be at fault. Rather than sharing the belief with patients, who considered themselves to be responsible for falling, regardless of whether cognition was a problem or unsafe choices had been made, staff were in an ideal position to empower patients - and each other - to enhance learning and service improvement. The provision of appropriate advice and guidance from staff was acknowledged as an important step to prevent further falls.

Staff wanted to be consulted on structural changes made to the ward environment. Involving staff in this process would facilitate stronger connections with upper management as well as making changes more closely aligned with the working practices of ward staff. If lines of communication between staff and upper management were improved then certain changes could be made to the two wards so as to promote a better rehabilitation environment for the patients. For example, patients would have enough space to perform functional tasks; staff would be able to manoeuvre manual handling equipment more easily; patients could alert staff to problems (e.g. falls) by having better access to call-alarms etc.

#### ***5.11.2 Specific issues***

Changes also needed to occur to the issues specific to patients and staff as individual groups. For the patients, changes were largely centred on addressing the psycho-social



consequences of falling. This was the dominant discourse for patients who regarded falling as a personal problem and therefore believed that they were to blame for falling. Patients needed to be encouraged to engage in falls prevention strategies, such as exercise training and functional task practice, to develop their confidence and reduce their fear of falling; equally, staff had to provide the appropriate level of support during these times to empower and motivate patients to perform functional tasks safely and more confidently.

One key issue specific to staff included the need to engage in effective team-working practices at every opportunity (e.g. goal planning, joint therapy sessions, weekly team meetings). This included changing the ethos of how staff implemented rehabilitation so as to promote a culture of equality, shared decision-making, and pooling of knowledge with patients at the focus of discussions (Brajtman et al., 2008; Sheehan et al., 2007). Learning together also included sharing information gained from completing falls risk assessments and incident reports. These documents were filed away in the medical notes and were not effectively used as a means of focusing clinical interventions or informing ward staff of changes in patients' individual needs.

A lack of managerial support and problems with organisational processes, including (excessive) paperwork, were other issues specific to staff in need of development so as to promote service improvements. There was a perceived distance between staff and managers that discouraged innovation and professional initiative. This was raised as a significant issue by the staff who believed that upper management were unaware of the problems of the two wards. This directly affected patient care by controlling (limiting) how staff approached their clinical practice, and how able they were to implement strategies and principles of rehabilitation. For example, staff reported being able to spend less time with patients due to the quantity and regularity of paperwork that had to be completed. One of the fundamental aims of the Productive Ward was to free staff up from such administrative duties so that they could increase their clinical contact time with patients. In the feedback sessions held with each ward following the cessation of the CLGs, staff described improvements to ward processes in light of their adherence to the Productive Ward initiative. This was considered to be a critical means of continuing to develop the service and improve patient care, particularly when working under the pressures of reduced staffing levels, as was commonly reported by staff.

### **5.12 Action research as the process of change**

Kemmis (2009) argues that action research can be positive and negative. For example, it can result in better practices for healthcare providers, although action research can also create unsustainable consequences for the people involved in the changes. Cycle two aimed to challenge existing practices by helping staff to gain a better understanding of their clinical work and how this related to patients' experiences and outcomes (Tolson et al., 2006). The study enabled staff to become theorists and researchers so as to take greater intellectual and moral control over their practices.

There was always the risk that encouraging staff to question their values and behaviours would result in negative responses. For example, staff might have felt threatened that their professional identities and clinical interventions were being criticised - perhaps even blamed for the high numbers of falls rates. It was important to allay staff of their concerns through a positive re-affirmation of their position as agents of change (Tolson et al., 2006). Staff were empowered to generate improvements to their own practices (Olshansky et al., 2005) as well as to the experiences of patients through the process of transformation and action (Day et al., 2009).

Each learning group session provided the means for staff to experience a 'reversal of consciousness' (Kemmis, 2009), whereby their participation in educational activities and interprofessional discussions created new realities and new ways of approaching their clinical practice (Tutton and Ager, 2003). The collaborative process also enabled participants to modify their existing perceptions of their practices. Kemmis believes this can lead to: "a deepened self-awareness or self-presence" (Kemmis, 2009, pp.465). Each new episode of learning presented staff with experiences to re-shape their practice and to set the agenda for the next CLG. New ways of relating through the discourses in which understandings were oriented and conducted modified previously established professional attitudes and behaviours (Nash and Govier, 2009; Tutton and Ager, 2003). This epitomised the cyclical, evolving nature of the research, with changes occurring within and beyond the collaborative process (Trondsen and Sandaunet, 2009).

The CLGs provided staff with opportunities to become experienced by acquiring knowledge, and through the actual process they engaged in to acquire it (Tolson et al., 2006). Facilitating shifts in the professional culture of the two wards was integral to educating staff

on the need to involve patients within a practice partnership (Benten and Spalding, 2008; Atwal et al., 2007; Tutton and Ager, 2003). The views expressed by staff highlighted how patients were excluded from fundamental aspects of their rehabilitation which impacted on the prevention of falls. Action research helped staff to understand their interactions with patients through the realisation of how patients formed an integral element of becoming experienced (Olshansky et al., 2005; Tutton and Ager, 2003). Staff gained insights into the beliefs and attitudes of patients, particularly how these changed following a fall (Wright et al., 2007; Kong et al., 2002). How staff related to patients was presented as an inseparable process of mutual learning and development. This was essentially the intervention of cycle two - as Kemmis stated: "action research is itself a practice" (Kemmis, 2009, pp.467).

### **5.13 Further implications**

In addition to the feedback sessions held with staff after the final CLG, a report was submitted to the Trust's Research and Development department. This report contained an account of the findings from cycle two and provided a means of disseminating the research to upper NHS Trust management. In this way, the findings of the study could aim to facilitate changes not only at local level (i.e. on the two rehabilitation wards) but also at organisational level, by informing management of ways in which services could be improved. Encouraging staff to become more pro-active with engaging with patients so as to improve their understanding of patients' experiences was a form of tactical authenticity, that is, empowering others (Cohen and Crabtree, 2006). Feeding results back to management demonstrated catalytic authenticity (Cohen and Crabtree, 2006) by stimulating some form of action (i.e. organisational changes). Both processes offered a way forward for the NHS Trust and provided closure for the study.

This study demonstrated the need for staff to ascertain a better understanding of patients' experiences of falling whilst in hospital. Increasing staff awareness of the diverse impact falling had on patients' lives and the ways in which staff communicated with patients, particularly during the pre- and post-fall phases of falling, was central to facilitating improvements to service provision. For example, understanding each patient's falls history and specific modifiable risk factors early upon admission was critical to preventing a hospital-based fall (Healey, 2010; Oliver, 2008). This study demonstrated how this subjective understanding needed to form a larger aspect of clinical intervention - to be

implemented in conjunction with quantitative risk assessment and prevention measures (e.g. the falls checklist). Furthermore, any issues identified at this early stage should be related to rehabilitation goals and prevention strategies so as to enhance functional outcomes and patients' experiences of being in hospital.

In the post-fall phase, it was important for staff to obtain further information from patients and other witnesses of falls (e.g. staff, relatives) so as to modify prevention and care plans accordingly. This would also improve the way in which staff documented falls when they completed incident report forms; these formed a significant part of the Trust's attempt to reduce in-patient falls by learning through experience.

This study has shown how a fall altered patients' trajectories when undertaking a period of rehabilitation, yet suggests how this disruption could be reduced by staff taking a more proactive approach to discussing falls and rehabilitation issues with patients and involving patients more in their care management. Patients reported feeling under-informed with regards to the aims of rehabilitation and methods of falls prevention/recovery. Having this knowledge could potentially aid patients' adherence to prevention strategies and prevent them from relinquishing the responsibility of their rehabilitation to staff following a fall; staff would have a greater appreciation of enabling patients to retain their independence rather than encouraging compensatory approaches, such as relying on (excessive) physical assistance with functional tasks.

A key element of implications for practice is how the findings of this study relate to the contemporary context of the NHS. The white paper 'Equity and Excellence: Liberating the NHS' (DH, 2010) proposed a reform of health services that emphasised health priorities, outcomes, quality standards and patient-care rather than structures and processes. This paper described the need to focus on shared decision-making with patients and giving patients better access to information so as to make informed choices over their care. Hospitals and clinical departments would be rated according to patients' experiences, and it was proposed to strengthen the collective voices of patients and the public. The reduction of mortality and morbidity, and improving safety by actively taking responsibility was also a core element of the white paper. Significant changes to the structure of the NHS was also described in the white paper, including the Government's decision to devolve power and responsibility for commissioning services to GP consortia. All NHS trusts will become or be

part of a foundation trust, and the majority of primary care trusts will change into social enterprises.

The Health and Social Care Bill, introduced in Parliament in January 2011, set out legislative changes to give the NHS greater freedoms, improved transparency and aimed to reduce political micromanagement. A new public health service, Public Health England, was described in this Bill as well as the white paper 'Healthy Lives, Healthy People'. A NHS Commissioning Board will have the responsibility to provide national leadership for improving quality of care, promoting patient and public involvement and choice, and reducing health inequalities. The Board will also have financial duties, such as supporting effective risk management and to guide consortia with commissioning resources.

The changing priorities of the NHS means that there is an even greater need to explore patients' experiences and to involve patients in the delivery of care than staff were found to be doing in this study. However, one of the key issues highlighted by staff were the daily working pressures that impacted on staffing levels, clinical contact time with patients, and availability of resources such as therapy-specific environments and equipment. Therefore, any attempt to implement strategies to increase staff understanding of patients' experiences of falling would need to be performed whilst under a climate of greater financial and organisational change than previously experienced during the research period. This would inevitably impact on the availability of staff in terms of staffing levels and allocated time to spend with patients so as to educate them on important hospital issues such as the aims of rehabilitation, risk factors, falls prevention strategies and understanding patients' personal histories of falling. Staff will be expected to demonstrate a commitment towards measuring clinical outcomes (DH, 2010) which will require further time and resources. However, the benefits of managing clinical contact time to embrace opportunities to learn more about patients (and vice-versa) would provide a means of improving outcomes and experiences by enabling patients to remain/regain a positive pathway through hospital, particularly if they experience a fall.

#### ***5.14 Opportunities for development***

This study was concerned with facilitating changes to *local* health services by involving patients and staff integral to this clinical setting. This was a small yet in-depth study that has

contributed towards a growing body of evidence. A review of the literature demonstrated the need to gain a better understanding of the experiences of patients and staff surrounding hospital-based falls (Carroll et al., 2010; Roe et al., 2008; NPSA, 2007; Kong et al., 2002).

Had the study spiralled into a third cycle of enquiry, it would have been beneficial to involve patients with cognitive impairment. Cognitive impairment has been shown to be a leading risk factor of falls (Titler et al., 2011; NPSA, 2007; Lord et al., 2007), and staff reported during a feedback session that a high proportion of patients that fell on the two wards had cognitive and/or communicative problems. Furthermore, a substantial part of the responses from staff in the learning group sessions pertained to issues involving cognitively impaired patients. For example, staff commented on how this sub-population of patients lacked insight into the consequences of their actions, and staff found it difficult to effectively manage the falls risk to these patients.

Level of cognition was important for this study yet would not necessarily be a factor that would limit future application (transference) of findings. The chosen research method of cycle two had a degree of flexibility in terms of enabling participants to respond openly to questions, and the interview schedule was used more as a guide rather than a rigid list of questions (Robson, 2011). A pilot phase might prove to be useful at modifying certain aspects of the research design and method so as to determine how best to engage with individuals with cognitive or communicative difficulties. A third cycle that specifically engaged with patients that were excluded from participating in cycle one would produce an even greater insight into the problem of hospital-based falls. In particular, understanding how patients perceived their risk of falling, and discussing methods of falls prevention whilst promoting independence and refraining from limiting their choices of behaviour (e.g. controlling patients' mobility) would be relevant considering these were key issues highlighted from the study. This could then create a means of exploring patients' experiences on a wider-scale with little or no exclusion criteria.

Another opportunity to develop the study (i.e. as an alternative third cycle) would be to investigate how to measure the relationship between effective team-working practices and advances in falls prevention. With an increasing need for health services to produce measurable results (DH, 2010), the Productive Ward could be used more robustly as a means of evaluating and continuing the improvements discussed with staff in the final CLGs and feedback sessions. Staff had commented on the impact of the Productive Ward since

the cessation of the CLGs, particularly in terms of gathering statistical data to improve the monitoring and learning from falls incidents (e.g. mobility charts, electronic assessment forms, a falls e-learning package etc.).

This study did not aim to measure aspects of effective team-working processes (e.g. staff satisfaction, inter-team communication strategies etc.) yet the importance of this only began to emerge as the CLGs evolved, that is, as problems with team-working and conflict between staff members became more apparent. There have been studies that have evaluated team-working (e.g. Proudfoot et al., 2009; Batorowicz and Shepherd, 2008; Rees et al., 2005; McLellan et al., 2005), and so this would inevitably form a key component if a third research cycle was developed. This would likely be a long-term follow-up with a particular focus on falls rates (e.g. ward-based and extended upon discharge into the community) and a more in-depth exploration of team-working practices.

The essence of cycle two was developing falls prevention strategies through educational interprofessional collaboration. Closer team-working practices have been shown to be a characteristic of interdisciplinary and transdisciplinary team structures, whereas the two ward teams were operating within a multidisciplinary model (Xyrichis and Lowton, 2008; Delva et al., 2008; Xyrichis and Ream, 2007; Reilly, 2001). Therefore, the aim of facilitating certain changes to the service (and to the two ward teams) was perhaps restricted by the study duration (Bridger, 1992). Another barrier to changes was the hierarchical professional cultures already embedded on the wards (Clark, 1997; Long, 1996). A third research cycle could aim to explore these relationships in greater detail with more emphasis on challenging issues such as professional status and power so as to facilitate effective team-working practices and patient-centred care (Stewart, 2001).

## **CHAPTER SIX**

### **CONCLUSION**

This was a qualitative study that demonstrated how deeply a fall could impact on the lives of patients within an in-patient rehabilitation setting. Furthermore, the responses of staff highlighted both the barriers and facilitators of service development, with a primary focus on improving falls prevention. The study was designed around the needs of a local Trust's problem with patients falling during their hospital stay, which had the benefit of understanding a significant phenomenon at a local level within a 'real' research environment.

A set of questions to be used in the semi-structured interviews with patients was authenticated by a consultation and pilot phase. Patients who had fallen during their time in hospital were invited to describe their experience of falling, with a particular focus on the perceived causes, circumstances and consequences of each incident. Their accounts provided a thorough understanding of the problem of hospital-based falls.

Key findings from this phase of the research included the bio-psycho-social impact on patients' daily lives; the relinquishing of the responsibility of their rehabilitation, thus giving staff more control and ownership over decision-making; a generalised feeling of a lack of involvement in their rehabilitation; changes to their mobility and level of assistance required to perform functional tasks; and most crucially, the impact of a fall on each patient's experience of hospital rehabilitation, with self-generated - often through fear of falling - and carer-imposed barriers to achieving an optimal state of independent functioning (Jorstad et al., 2005).

The findings from the first cycle of research informed the basis of the second cycle, which was to work in partnership with staff by incorporating educational activities into group discussions. There was an emphasis on raising staff awareness of falls-related issues expressed by patients in the first cycle of enquiry. Part of this process involved an informal review of the documentation used by the staff to identify falls risk and to report on incidents (NPSA, 2007). The primary focus of conversations was on falls prevention and matters which directly concerned the patients under the care of ward staff. Group discussions



gradually opened up in accordance to the agenda agreed by the participants (Gibb et al., 2002). The evidence-base underpinning older people falling in hospital was presented to staff and provided a conventional framework on which to direct group sessions (Tolson et al., 2006).

Conducting a research study in collaboration with staff revealed many insights into how rehabilitation and falls prevention strategies were delivered. Discussions with ward staff encompassed a wide-range of topics including how staff engaged in activities to promote effective team-working, such as goal-planning, joint-working sessions, and weekly team-meetings; current literature and key findings from cycle one to support methods of preventing falls; and how staff were involved in the various phases of a fall, including the identification and documentation of falls risk, how a fall was managed once it had occurred, the consequences of falling, particularly if an injury had been sustained, and the ways in which staff documented a fall as part of the process of incident reporting.

The study found that issues related to ineffective team-working and conflict between members of staff had a significant contribution towards the negative aspects of patients' experiences of falling in hospital (Wilson, 2005). The obligation to ensure patient safety was a ward priority, yet staff found it difficult to balance this with the promotion of independence, which was a fundamental aim of rehabilitation (WHO, 2009). In doing so, there was a shift in the balance of power between staff and patients so that staff had more control over the short- and long-term management of patients' rehabilitation. This approach to risk management reinforced the negative consequences patients had experienced from a fall. This resulted in a change in the projected pathway of patients receiving rehabilitation, that prevented them the opportunity to achieve optimal and independent functioning. This continued to develop throughout the remainder of their stay in hospital, and there was a high likelihood that it persisted after they had been discharged home (Davenport et al., 2009).

The findings from both cycles generated implications to improve clinical practice and health services for the Trust. For example, the monitoring and reporting of falls incidents were an important means of promoting organisational learning, and so staff were encouraged through reflective and educational activities to modify the ways in which they documented incidents (NPSA, 2007). The need to involve patients and families in the planning and implementation of rehabilitation was recognised by ward staff who agreed to engage more

in methods to achieve this, such as goal-planning and identifying individuals' falls risks. Staff were more aware of the wide-range of consequences that arose from a fall, including the factors that were not always immediately observable, such as fear of falling, low confidence, and modifications to patients' social functioning (Fenton, 2008).

There was a need for senior management to obtain a better understanding of the problems staff faced on the wards, particularly in relation to the perceived inadequate staffing levels (Lankshear et al., 2005), and to encourage innovation and ideas from staff to aid service development. Finally, staff agreed that it was important to have more joint-working sessions with other members of the rehabilitation team so as to facilitate better communication, mutual respect between different professionals, and ultimately, improved patient outcomes.

Feedback sessions were held with staff several months following the main data collection phase to evaluate any changes to have been implemented since the cessation of the study. Staff reported on improvements made to the service that encapsulated many of the implications for practice described above. In particular, learning from each incident had been improved through changes made to reporting systems. Patients at high risk of falling could be identified more easily, and clearer guidelines on how to prevent falls, including mobility assessments and manual handling techniques, were more accessible to all members of staff. Staff had greater awareness of each patient's falls risks and care plan, although goal-planning and joint-working sessions were still rarely engaged in. Problems continued to develop between ward staff and senior management as staff felt excluded from changes made to ward policies and organisational matters.

This study contributed towards an area of falls research where there is a marked lack of evidence: understanding the personal experiences of patients who fall in hospital, and the responses of staff who are in the frontline position of being responsible for the care and prevention of further falls. It was shown that changes had occurred since the cessation of the study, as evidenced by ward and Trust initiatives discussed in feedback sessions with staff. The study provided the two rehabilitation wards with a means of continuing to develop services by transforming the ways in which staff understood and related to their practices (Kemmis, 2009).

# **APPENDIX 1: Search Strategy One** **A Basis for Understanding In-patient Falls**

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, hospital (NOT community)
<b>Subject Terms (where applicable)</b>	research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; care & treatment; prevention; intervention; geriatrics & gerontology; elderly; program; studies; exercise; risk; falls; medicine, internal & general; injuries; aged; medicine; risk factors; health aspects; fractures; health care; aging; health services; patients; surgery; orthopaedics; therapy; general surgery; osteoporosis; internal medicine; surgical orthopaedics; clinical neurology; neurology
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	441 (36 of relevance)

Table 2.1.1 Search strategy one

Subject terms (e.g. ‘research’, ‘falls’, ‘health’, ‘elderly’ etc.) were used to focus the search on studies that related to older people falling. Studies were found to relate to specific aspects of falls, such as definitions and qualitative descriptions of falls incidents (e.g. Zecevic et al., 2006; Ross et al., 2005), whereas other studies had a broader remit and covered falls in a wider sense, such as policies and guidelines (e.g. RCP, 2011; NPSA, 2007).

## APPENDIX 2: Search Strategy Two

### Risk Assessment

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, risk, assessment, tool
<b>Subject Terms (where applicable)</b>	research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; care & treatment; prevention; intervention; geriatrics & gerontology; elderly; program; studies; exercise; risk; falls; medicine, internal & general; injuries; aged; risk factors; health aspects; fractures; health care; aging; [EXCLUDED community]
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	316 (37 of relevance)

Table 2.1.2 Search strategy two

Subject terms (e.g. 'risk', 'falls', 'risk factors', 'health', 'elderly' etc.) were used to focus the search on studies that highlighted the factors that placed older patients at risk of falling, and the assessment of risk of falling, including the use of screening tools/strategies. Only the risk factors and assessment tools that related to hospital-based settings and older populations were included. Relevant studies were categorised into those which explored risk factors, risk assessment tools, or both.

### APPENDIX 3: Search Strategy Three

#### Falls Prevention

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, prevention
<b>Subject Terms (where applicable)</b>	research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; care & treatment; prevention; intervention; geriatrics & gerontology; elderly; program; studies; exercise; risk; falls; medicine, internal & general; injuries; aged; risk factors; health aspects; fractures; health care; aging; [EXCLUDED community]
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	695 (46 of relevance)

Table 2.1.3 Search strategy three

Subject terms (e.g. 'falls', 'program', 'exercise', 'elderly') were used to focus the search on studies that aimed to prevent or reduce falls occurring in hospitals. The Cochrane Library was used to search for a Cochrane Review of in-patient falls written by Cameron et al. (2010). Relevant studies were categorised into those which explored specific aspects of falls prevention, such as exercise programmes (e.g. Haines et al., 2009; Haines et al., 2007; Steadman et al., 2003) and different types of flooring (e.g. Drahota et al., 2007), and more generic systematic reviews (e.g. Cameron et al., 2010; Coussement et al., 2008; Oliver et al., 2006).

## APPENDIX 4: Search Strategy Four

### Patient Experience

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, hospital, experience, patient
<b>Subject Terms (where applicable)</b>	quality; research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; care & treatment; patients; aged; health aspects
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	696 (32 of relevance)

Table 2.1.4 Search strategy four

Subject terms (e.g. 'falls', 'quality', 'patients', 'care', 'elderly') were used to focus the search on studies that explored patients' experiences of falling in hospital-based settings. The literature was categorised into smaller-scale studies (e.g. Carroll et al., 2010; Kong et al., 2002) and those encompassing work at a national level, such as policies and guidelines (e.g. RCP, 2010; NPSA, 2007).

## APPENDIX 5: Search Strategy Five

### Staff Involvement

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, team, disciplinary
<b>Subject Terms</b>	research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; research & development; care & treatment; collaboration; risk; prevention; intervention
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	306 (28 of relevance)

Table 2.1.5 Search strategy five

Subject terms (e.g. 'falls', 'collaboration', 'health policy and services', 'older people') were used to focus the search on studies that explored the relationship between hospital falls and team-working. The literature was categorised into different aspects of falls and team-working, including staff education, training and motivation, different team structures, and collaborative working.

## APPENDIX 6: Search Strategy Six

### Improving Practices and Service Delivery

<b>Databases Searched</b>	CINAHL ProQuest Nursing and Allied Health Source Ovid PubMed Medline Cochrane Library
<b>Key Words</b>	falls, changing, practice, service, improvement
<b>Subject Terms (where applicable)</b>	research; nursing; public, environmental & occupational health; medicine & public health; rehabilitation; health care sciences & services; health policy & services; health; hospitals; older people; care; care & treatment; prevention; intervention; geriatrics & gerontology; patients; injuries; fractures; planning; performance; planning & development; health care policy; decision making; health services; management
<b>Dates</b>	January 2000 - July 2011
<b>Limitations</b>	Limited to articles from scholarly publications, including peer-review; excluded newspaper articles; journal articles only; English language only; sorted by relevance
<b>Total Articles Identified</b>	406 (41 of relevance)

Table 2.1.6 Search strategy six

Subject terms (e.g. 'falls', 'planning', 'performance', 'health policy and services', 'management') were used to focus the search on studies that explored the development of services, the generation of knowledge and practice-improvement at an organisational level as well as the process of change at a more individual level.



## APPENDIX 7: Falls Checklist

**March 2005**

Affix patient identification label in box below or complete details	
Surname	Patient ID No.
Forename	D.O.B.
Address	NHS No.
	Sex: Male / Female
Post Code	

Ward/Team:

Date:

Risk Factor	Yes	No	<b>If yes refer to <i>Integrated Falls Service</i></b>
<b>History of falls</b> Has the person had 3 or more falls in the last 12 months?			
<b>History of dizziness or blackouts?</b> Has the person experienced dizzy spells or blackouts in the past 6 months?			

<b>History of falls</b> Has the person had 1 or 2 falls in the last 12 months? If so document how many, where and what happened			<b>If yes refer to Guide to Care Planning (Community) or Falls Prevention Plan (Ward)</b>  <b>If the person is ALSO unsteady on their feet refer to <i>Integrated Falls Service</i></b>
<b>Mental State</b> Is the person confused or disorientated?			
<b>Vision</b> Does the person have a visual impairment?			
<b>Medications</b> Is the person taking 4 or more prescribed medications?			
<b>Eliminations</b> Does the person have continence problems / problems using the toilet?			
<b>Environmental Hazards</b> Are there any hazards (in the person's home or hospital environment) that could cause a fall?			

<b>Unsteadiness</b> Is the person unsteady on their feet?			<b>If yes refer to Guide to Care Planning (Community) or Falls Prevention Plan (Ward)</b>  <b>If the person ALSO has one of the risk factors above refer to <i>Integrated Falls Service</i></b>
--	--	--	---

Signature	Print Name	Date and Time

**APPENDIX 8: Falls Questions v.1**  
**[Originally in a questionnaire format]**

**NON-DUPLICATE:**

- 1) How would you describe what a fall is?
- 2) What do you think causes you to fall in hospital?
- 3) How many falls in hospital have you had during this hospital stay?
- 4) Did you ever fall before coming into hospital (at home)?
- 5) How does your falling in hospital compare with the falls that you have had at home?
- 6) Does falling in hospital stop you from doing anything?
- 7) Is falling in hospital a problem for you?
- 8) Do you have a fear of falling in hospital?
- 9) Has falling in hospital changed your daily life on the ward?
- 10) Is your problem with falling in hospital getting better, worse or staying the same?
- 11) Which hospital staff do you feel help you with your falls rehabilitation?
- 12) Do you think the therapy you receive in hospital is helping your falls?
- 13) Do you think falling in hospital can be prevented?
- 14) Do you think an older person should expect to fall in hospital?

**DUPLICATE:**

- 1) What day did you fall?
- 2) Do you know the time of your fall (approximately)?
- 3) Where on the ward did you fall?
- 4) In what way did you fall?
- 5) Can you tell me some more details about how exactly you fell?
- 6) What happened next?
- 7) Did you injure yourself when you fell?
- 8) How were these injuries treated?
- 9) Did you lose consciousness when you fell?
- 10) Could you summon for help after you fell?
- 11) Could you get up from the floor when you fell?
- 12) Did anybody help you when you fell e.g. staff, patients, or visitors?
- 13) Did you get any warning that you were going to fall?
- 14) Why do you think you couldn't stop yourself from falling?
- 15) How did you feel after you fell?
- 16) Do you do anything differently now since you fell?

## **APPENDIX 9: Falls Questions v.2**

### **NON-DUPLICATE:**

- 1) How would you describe what a fall is?
- 2) Have you fallen before coming onto the ward e.g. at home, another ward?
- 3) Do you regard having a fall/falling in hospital as being a problem to you?
- 4) Did you have/do you now have a fear of falling in hospital?

### **DUPLICATE:**

- 1) Which number fall is this?
- 2) What day did you fall?
- 3) Do you know the time of your fall (approximately)?
- 4) Where on the ward did you fall?
- 5) What were you doing at the moment of falling? (movement/ task)
- 6) Was the fall witnessed by anyone?
- 7) Why do you think you fell?
- 8) Do you think your fall in hospital could have been prevented?
- 9) Which staff helped you when you fell?
- 10) Did you injure yourself when you fell?
- 11) How were these injuries treated?
- 12) Did any investigations e.g. X-rays, bone scans etc. take place?
- 13) Did you lose consciousness/black-out when you fell?
- 14) Were you dizzy or lightheaded when you fell?
- 15) Did you get any warning that you were going to fall?
- 16) Could you summon for help after you fell?
- 17) Could you get yourself back up again after you had fallen?
- 18) What impact has this fall had on you? How did the fall make you feel?
- 19) Is there anything else you wish to say about your fall?

## **APPENDIX 10: Falls Questions v.3**

### **NON-DUPLICATE:**

- 1) How would you define a fall?
- 2a) Before coming onto the ward, did you expect to fall during your hospital stay?
- 2b) Do you expect to fall again?
- 3) Do you regard having a fall/falling in hospital as being a problem to you?
- 4) What do you think could be the consequences of falling in hospital?
- 5) Did you have/do you now have a fear of falling in hospital?
- 6) Do you think falling in hospital can be prevented?

### **DUPLICATE:**

- 1) Which number fall is this?
- 2) What day did you fall?
- 3) Do you know the time of your fall (approximately)?
- 4) Where on the ward did you fall?
- 5) What were you doing at the moment of falling? (movement/ activity)
- 6) Did you get any warning that you were going to fall?
- 7) What happened after you fell?
- 8) Why do you think you fell?
- 9) If you were to do the same movement/activity again, is there anything you would do differently?
- 10a) Did you injure yourself when you fell?
- 10b) How were these injuries treated/investigations e.g. X-rays, bone scans?
- 11a) Who or what do you think was responsible for your fall?
- 11b) Who or what would be responsible if you fell again?
- 12) What impact has this fall had on you? How did the fall make you feel?
- 13) Is there anything else you wish to say about your fall?

## APPENDIX 11: Consent Form Consultation Phase

24<sup>th</sup> May 2008

Study Number: 08/H0904/5

Patient Identification Number for this trial:

### Consent Form

Project Title: "*Falls on Elderly Rehabilitation Wards*"

Name of Researcher: Nicholas Turner

Please Initial  
Box:

1 I confirm that I have read and understand the information sheet dated..... (version.....) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2 I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.

3 I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from Northumbria University, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

4 Only the data collected whilst I have the capacity to provide informed consent can be retained and used by the Principal Researcher. I will have to leave this study if circumstances change and I lose this capacity.

5 I agree to take part in the above study.

.....  
Name of participant

.....  
Date

.....  
Signature

.....  
Name of person taking consent

.....  
Date

.....  
Signature

When completed: 1 for participant; 1 for researcher site file; 1 (original) to be kept in medical notes.

## APPENDIX 12: Information Sheet for Consultation Phase

24<sup>th</sup> May 2008

### **Information Sheet for Participants**

Project Title: “*Falls on Elderly Rehabilitation Wards*”

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take the time to read the following information carefully. Talk to others about the study if you wish.

- Part 1 tells you the purpose of this study and what will happen to you if you take part
- Part 2 gives you more detailed information about the conduct of the study

Please feel free to ask me if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

Kind regards,

Nic Turner

Physiotherapist & PhD candidate

## Part 1 – Study Information:

### **What is the purpose of the study?**

The main purpose of this study is to understand the problem of patients falling in hospital.

### **Why have I been invited?**

You have been identified as being a previous patient of one of these wards as well as being somebody who might be able to provide some valuable information regarding hospital-based falls. I will be asking other past patients who might be appropriate for this study; there will be 4 people in total.

### **Do I have to take part?**

It is entirely up to you whether you choose to take part in this study. After you have had some time to read through this information sheet, I will then go through this sheet again with you before asking you to sign a consent form to show that you have agreed to take part. You are free to withdraw from the study at any time, without giving a reason. This would not affect the standard of care you receive, either in the present or future.

### **What will happen to me if I take part?**

I will arrange a suitable date and time to visit you at home where we will discuss a draft falls questionnaire that I have produced. For example, I might ask you if the questions can be easily understood or if the questionnaire needs to have more or less questions. I will ask you to draw upon your time spent at one of \*\*\*\* hospital's elderly rehabilitation wards (\*\*\*\* or \*\*\*\*). This questioning should take approximately 30 minutes to complete. All you have to do is answer the questions as best as you can.

Your feedback will be used to change and update the draft questionnaire. Each participant's views will be collected and used in the same way until a common consensus has been reached between the participants. This might take up to two home visits in total.

### **How long will the study last for?**

Your involvement in the study will last for only two 30 minute sessions at your home. After each of the four participants has been interviewed, a final summary of the findings will be given to every participant. There will be nothing more required from you, and there will be no long-term follow-up to this study.

### **What are the possible benefits of taking part?**

This study will provide a way of involving you in healthcare research. Your thoughts, feelings and experiences of in-patient falls will directly influence the design of a falls questionnaire that will be performed on patients currently in hospital on both \*\*\*\* and \*\*\*\* wards. It is intended that the information you provide will help to improve falls services within \*\*\*\* by making them even more focussed upon the experiences of patients. There will be absolutely no risks to you during the study. You will also receive a one-off payment of £20 for your involvement.

### **What if there is a problem?**

If you have any questions or queries about the study, please feel free to ask me at anytime (for my contact details, please see later). Any problem or complaint about the way you have been dealt with during the study will be appropriately addressed. More information on this is given in Part 2.

### **Will there be any expenses and payments?**

You will receive a one-off payment of £20 for your involvement in this study. There will be absolutely no cost to you.



**Will my taking part in the study be kept confidential?**

Yes. I will follow ethical and legal practice and all information about you, including your identity, will be handled in the strictest of confidence. Further details can be found in Part 2.

*This completes Part 1.*

*If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.*

Part 2 – Additional Information:

**What will happen if I don't want to carry on with the study?**

Your participation in this study is on a purely voluntary basis, and so you are free to withdraw from the study at any time, without giving any reason for your withdrawal. This will not affect the standard of care you receive, either in the present or future.

**What if there is a problem?**

If you have any questions or queries about the study, please feel free to ask me at anytime as I will do my very best to answer your concerns. Alternatively, if you wish to gain advice from someone other than myself, please speak to my university supervisor:

\*\*\*\*

If you remain unhappy and wish to complain formally, you can do this through contacting the Trust's Physiotherapy Lead:

\*\*\*\*

### **Will my taking part in this study be kept confidential?**

Findings from this study will be related back to my supervisors and are intended to be published at a later date. However, all information that you give will be held confidentially, and your identity e.g. name, address, date of birth etc. will not be revealed. Information will be securely stored on a university computer, which only my supervisory team and myself have access to. Access to this electronic device requires a password. Therefore, the information that you provide will be treated with the utmost respect and dignity.

Data will be collected via a handwritten questionnaire which I will fill-in as you give your responses, and this will be kept solely in my possession. If appropriate, I might use some of your responses as quotes to help ensure the authenticity of the questionnaire. However, as mentioned above, your identity will not be revealed. These questionnaires will be used to produce information relating to falls events occurring on the two rehabilitation wards at \*\*\*\*. A summary of the study's results will be given to you at the end of the research period.

The information that you have provided will be confidentially stored for a minimum period of 4 years. It will be highly likely that I will need to use any information collected from you during this 4 year time-scale. Only the data collected whilst you have the capacity to provide informed consent will be retained and used. If circumstances change and you lose this capacity, you will be automatically leave the study and no further data will be collected.

### **Who will be notified of my involvement in the study?**

I will be the only person to know of your involvement in this study.

**What will happen to the results of the research study?**

They will be primarily used to inform a future study to be carried out by myself so as to investigate falls in hospital. Findings from this study will be related back to my supervisors and are intended to be published at a later date as part of my PhD qualification. The results are intended to help improve the falls services within \*\*\*\* by making them even more focussed upon the experiences of patients. Once again, your identity will be kept anonymous, so that you will not be recognised.

**Who is organising and funding the research?**

\*\*\*\* has supplied the funding for this study, in conjunction with Northumbria University.

**Who has reviewed the study?**

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Sunderland Research Ethics Committee.

**Further information and contact details:**

If you require any further information specific to this study, please feel free to ask myself at anytime. Independent advice, such as whether you should participate in this study, can be gained from \*\*\*\*, who is my Principal Supervisor at university.

Further information regarding research can be found on the following internet websites:

National Electronic Library for Health

<http://www.library.nhs.uk/trials>

The National Research Register - UK database of research projects

<http://www.nrr.nhs.uk/>

INVOLVE - Promotes public involvement in the NHS.

<http://www.invo.org.uk/>

MRC Clinical Trials Unit - Advice for potential participants including lists of trials and questions that people may wish to ask researchers.

<http://www.ctu.mrc.ac.uk/TakePart.asp>

*This completes Part 2.*

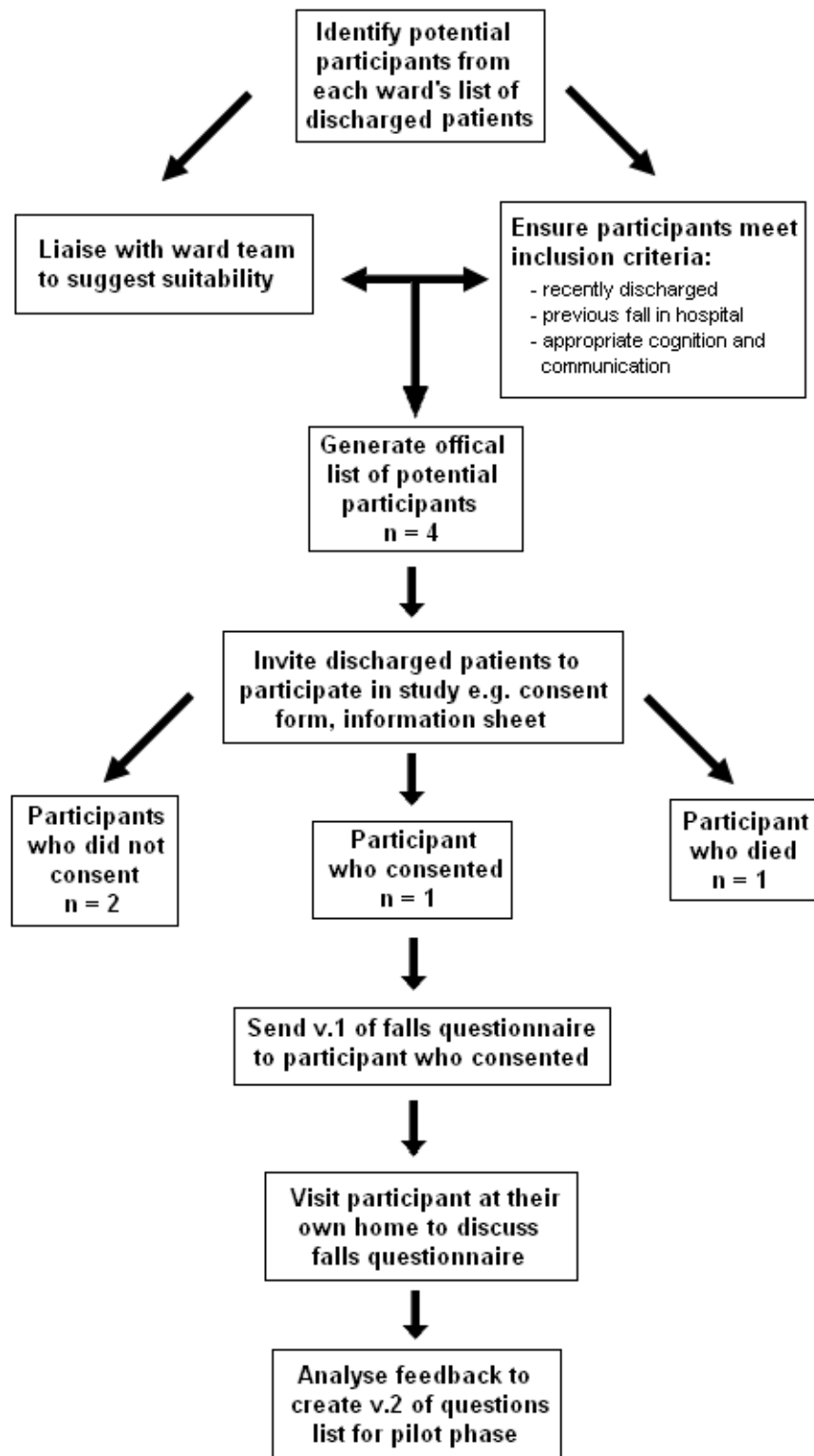
This information sheet is yours to keep and refer to if necessary. You will also be given a copy of a signed consent form to keep.

Many thanks for your time and consideration for reading this information sheet.

Nic Turner

Physiotherapist & PhD candidate

## APPENDIX 13: Consultation Phase Flowchart



## APPENDIX 14: Consent Form Cycle One

Study Number:

### CONSENT FORM

Project Title: "*Falls on Elderly Rehabilitation Wards*"

Name of Researcher: Nicholas Turner

Please Initial  
Box:

1 I confirm that I have read and understand the information sheet dated **9<sup>th</sup> January 2008** (version **1.0**) for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily.

2 I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason, without my medical care or legal rights being affected.

3 I understand that relevant sections of my medical notes and data collected during the study may be looked at by individuals from Northumbria University, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to my records.

4 I agree to the nursing, medical and rehabilitation staff in charge of my care being informed of my participation in the study.

5 Only the data collected whilst I have the capacity to provide informed consent can be retained and used by the Principal Researcher. I will have to leave this study if circumstances change and I lose this capacity.

6 I agree to take part in the above study.

.....  
Name of participant

.....  
Date

.....  
Signature

.....  
Name of person taking consent

.....  
Date

.....  
Signature

When completed, 1 for participant; 1 for researcher site file; 1 (original) to be kept in medical notes.

## APPENDIX 15: Information Sheet for Cycle One

### **Information Sheet for Participants**

Project Title: “*Falls on Elderly Rehabilitation Wards*”

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and what it would involve for you. Please take the time to read the following information carefully. Talk to others about the study if you wish.

- Part 1 tells you the purpose of this study and what will happen to you if you take part
- Part 2 gives you more detailed information about the conduct of the study

Please feel free to ask me if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

Kind regards,

Nic Turner  
Physiotherapist & PhD candidate

## Part 1 – Study Information:

### **What is the purpose of the study?**

The main purpose of this study is to understand the extent to which falls pose a problem to people who are currently patients at one of two rehabilitation wards at \*\*\*\*.

### **Why have I been invited?**

You are a current patient at one of these rehabilitation wards, and you have been identified as being someone who might be able to provide some valuable information regarding hospital-based falls. I will be asking every patient on the two rehabilitation wards who are appropriate for this study; this could be approximately 48-72 people throughout the duration of the study.

### **Do I have to take part?**

It is entirely up to you whether you choose to take part in this study or not. After you have had some time to read through this information sheet, I will then go through this sheet again with you before asking you to sign a consent form to show that you have agreed to take part. You are free to withdraw from the study at any time, without giving a reason. This would not affect the standard of care you receive.

### **What will happen to me if I take part?**

I will be coming to both rehabilitation wards, twice each week, for up to four months. Every time I come I will find out if you have had a recent fall. If you have fallen, I would like to carry out a questionnaire that will help me to find out the details surrounding your fall. This questionnaire should take approximately 20 minutes to complete. I will fill the questionnaire in – all you have to do is answer the questions as best you can. If you haven't fallen, then no action will be taken.



**How long will the study last for?**

The study will last for four months, and I might be contacting you up to two times per week over this four month period, for approximately 10 minutes each time. After the four month study period, a summary of the findings will be given to every participant. There will be nothing more required from you, and there will be no long-term follow-up to this study.

**What are the possible benefits of taking part?**

This study may help you to understand the causes and consequences of your falls by providing you with an opportunity to voice your thoughts and feelings to a trained professional. It is intended that the information you provide will help to improve falls services within \*\*\*\* by making them even more focussed upon the experiences of patients. There will be absolutely no risks to you during the study.

**What if there is a problem?**

If you have any questions or queries about the study, please feel free to ask me at anytime. Any problem or complaint about the way you have been dealt with during the study will be appropriately addressed. More information on this is given in Part 2.

**Will there be any expenses and payments?**

There will not be any form of expenses or payments generated throughout this study as it is being fully funded by \*\*\*\*.

**Will my taking part in the study be kept confidential?**

Yes. I will follow ethical and legal practice and all information about you, including your identity, will be handled in the strictest of confidence. Further details can be found in Part 2.

*This completes Part 1.*

*If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.*

## Part 2 – Additional Information:

### **What will happen if I don't want to carry on with the study?**

Your participation in this study is on a purely voluntary basis, and so you are free to withdraw from the study at any time, without giving any reason for your withdrawal. This will not affect the standard of care you receive

### **What if there is a problem?**

If you have any questions or queries about the study, please feel free to ask me at anytime as I will do my very best to answer your concerns. Alternatively, if you wish to gain independent advice from a member of staff not associated with this study, please speak to:

\*\*\*\*

If you remain unhappy and wish to complain formally, you can do this through contacting the Trust's Physiotherapy Lead:

\*\*\*\*

### **Will my taking part in this study be kept confidential?**

Findings from this study will be related back to my supervisors and are intended to be published at a later date. However, all information that you give will be held confidentially, and your identity e.g. name, hospital number, date of birth etc. will not be revealed. Information will be securely stored on a university computer, which only my supervisory team and myself have access to. Access to this electronic device requires a

password. Therefore, the information that you provide will be treated with the utmost respect and dignity.

Data will be collected via a written questionnaire which I will fill-in as you give your responses, and this will be kept solely in my possession. If appropriate, I might use some of your responses as quotes to help ensure the authenticity of the questionnaire. However, as mentioned above, your identity will not be revealed. These questionnaires will be used to produce detailed information relating to falls events occurring on the two rehabilitation wards at \*\*\*\*. A summary of the study's results will be given to you at the end of the research period.

The information that you have provided will be confidentially stored for a minimum period of 4 years. It will be highly likely that I will need to use any information collected from you during this 4 year time-scale. Only the data collected whilst you have the capacity to provide informed consent will be retained and used. If circumstances change and you lose this capacity, you will be automatically leave the study and no further data will be collected.

**Who will be notified of my involvement in the study?**

Only the nursing, medical and rehabilitation staff on the ward will be told of your participation in this study.

**What will happen to the results of the research study?**

They will be primarily used to inform a future research trial to be carried out by myself so as to prevent falls in hospital. Findings from this study will be related back to my supervisors and are intended to be published at a later date as part of my PhD qualification. The results are intended to help improve the falls services within \*\*\*\* by making them even more focussed upon the experiences of patients. Once again, your identity will be kept anonymous, so that you will not be recognised.

### **Who is organising and funding the research?**

\*\*\*\* has supplied the funding for this study, in conjunction with Northumbria University.

### **Who has reviewed the study?**

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Sunderland Research Ethics Committee.

### **Further information and contact details:**

If you require any further information specific to this study, please feel free to ask myself at anytime. Independent advice can be gained from \*\*\*\*.

Further information regarding research can be found on the following internet websites:

National Electronic Library for Health  
<http://www.library.nhs.uk/trials>

The National Research Register - UK database of research projects  
<http://www.nrr.nhs.uk/>

INVOLVE - Promotes public involvement in the NHS.  
<http://www.invo.org.uk/>

MRC Clinical Trials Unit - Advice for potential participants including lists of trials and questions that people may wish to ask researchers.  
<http://www.ctu.mrc.ac.uk/TakePart.asp>

Advice as to whether you should participate in this study can be obtained from either \*\*\*\*, or any senior member of the nursing, medical or rehabilitation staff, as these people will all be aware of this study.

*This completes Part 2.*

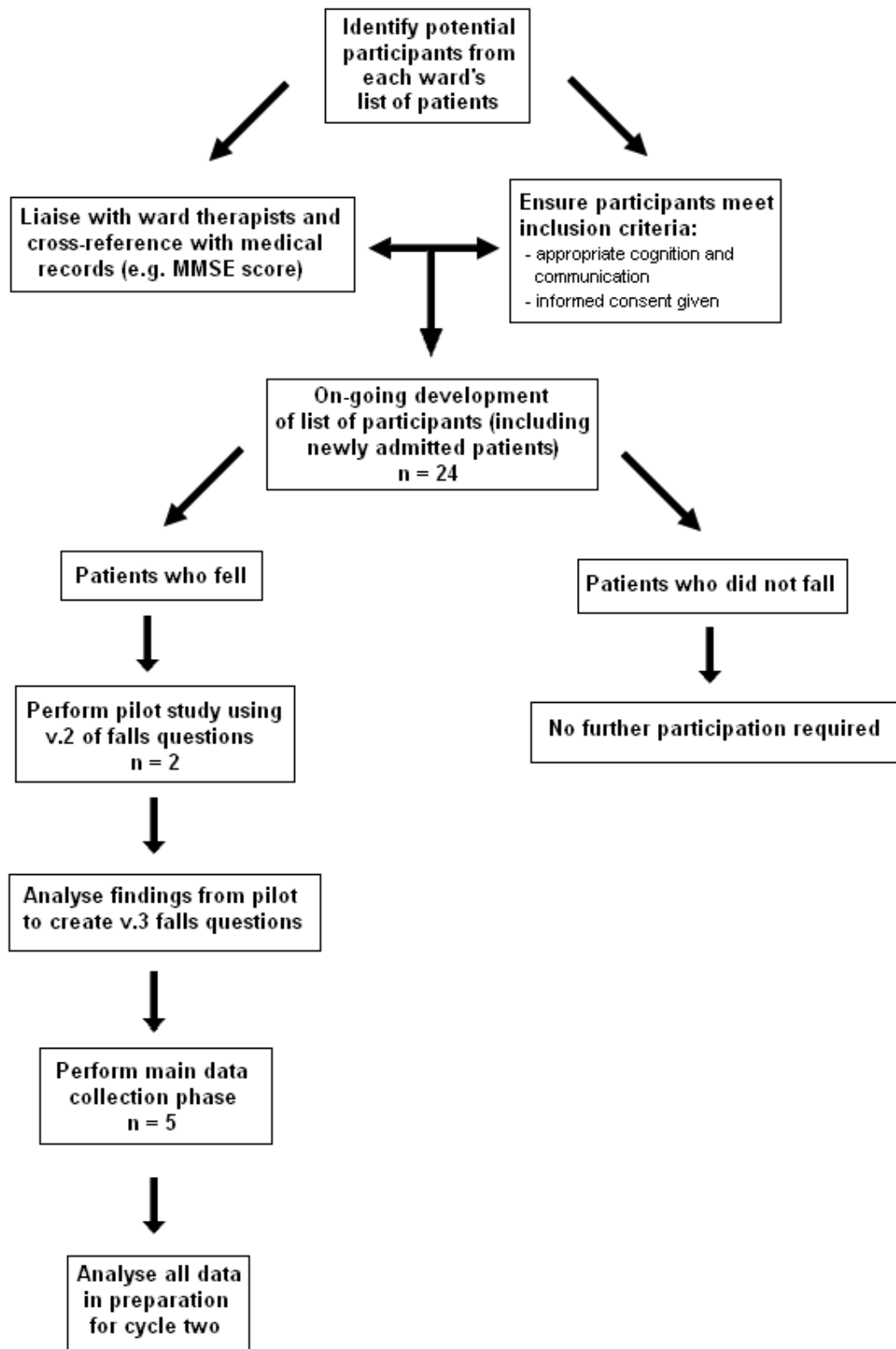
This information sheet is yours to keep and refer to if necessary. You will also be given a copy of a signed consent form to keep.

Many thanks for your time and consideration for reading this information sheet.

Kind regards,

Nic Turner  
Physiotherapist & PhD candidate

## APPENDIX 16: Flowchart for Cycle One



## APPENDIX 17: REC Approval Letter for Cycle One



### **National Research Ethics Service**

#### **Sunderland Research Ethics Committee**

Room 002  
TEDCO Business Centre  
Viking Industrial Park  
Jarrow  
Tyne & Wear  
NE32 3DT

Tel: 0191 4283563  
Fax: 0191 4283432

13 April 2010

Mr Nicholas Turner  
Research Physiotherapist  
Northumbria University c/o Dr. Pam Dawson  
Coach Lane Campus  
Benton  
Newcastle upon Tyne  
NE7 7XA

Dear Mr Turner

**Study title:** An Investigation into the Mechanisms, Consequences  
and Experiences of Falls on Elderly Rehabilitation Wards  
**REC reference:** 08/H0904/5

This study was given a favourable ethical opinion by the Committee on 31 March 2008.

It is a condition of approval by the Research Ethics Committee that the Chief Investigator should submit a progress report for the study 12 months after the date on which the favourable opinion was given, and then annually thereafter. To date, the Committee has not yet received the annual progress report for the study. It would be appreciated if you could complete and submit the report by no later than 30 April 2010.

Guidance on progress reports and a copy of the standard NRES progress report form is available from the National Research Ethics Service website.

The NRES website also provides guidance on declaring the end of the study.

Failure to submit progress reports may lead to the REC reviewing its opinion on the study.

08/H0904/5:	Please quote this number on all correspondence
-------------	--

Yours sincerely

**Helen M Wilson**  
Committee Co-ordinator

E-mail: Helen.Wilson@suntpt.nhs.uk

This Research Ethics Committee is an advisory committee to the North East Strategic Health Authority  
The National Research Ethics Service (NRES) represents the NRES Directorate within  
the National Patient Safety Agency and Research Ethics Committees in England

## APPENDIX 18: Descriptive Falls Data

Item of Data: Patient:	Number of Falls	Day of Fall(s)	Time of Fall(s)	Location of Fall(s)
Joan	1	Monday	08.00-15.59	Bedroom
Pat	2	Friday Wednesday	08.00-15.59 16.00-23.59	Bedroom Toilet
David	1	Tuesday	00.00-07.59	Bedroom
Margaret	1	Sunday	00.00-07.59	Bedroom
Ron	2	Monday Thursday	08.00-15.59 16.00-23.59	Day/dining room Dining room



## APPENDIX 19: Consent Form for Cycle Two

Patient Identification Number for this trial:

### CONSENT FORM

Project Title: "*Falls Prevention on Elderly Rehabilitation Wards - Phase 2*"

Name of Chief Investigator: Nicholas Turner

Please Initial  
Box:

- 1 I confirm that I have read and understood the information sheet dated **30<sup>th</sup> June 2009 (version 3.0)** for the above study. I have had the opportunity to consider the information, ask questions and have had these answered satisfactorily. ☐
- 2 I understand that my participation is voluntary and that I am free to withdraw at any time without giving any reason. ☐
- 3 I have been assured that my name and personal details will be kept confidential and will not appear in any published documents. ☐
- 4 I am willing for my comments to be tape-recorded. ☐
- 5 Any information that I provide will be confidentially stored for a maximum period of 2 years. This will be used this information to write the researcher's PhD thesis. All audiotapes will be degaussed (erased) and physically destroyed following transcription. ☐
- 6 If appropriate, some of my responses will be used as quotes to help ensure the authenticity of the research. However, every participant will be given a codename ensuring anonymity throughout this study. ☐
- 7 I will be expected to behave with the same professional manner and good practice as I would do normally. I understand that the disclosure of sensitive information that could compromise the identity or consent of others will be dealt with through the trust's own organisational policy. ☐
- 8 All electronic data will be stored securely on University computers, and all physical data (e.g. audio tapes) will be locked away on University grounds. ☐
- 9 I understand that data collected during the study may be looked at by individuals from Northumbria University, from regulatory authorities or from the NHS Trust, where it is relevant to my taking part in this research. I give permission for these individuals to have access to the data. ☐
- 10 I agree to take part in the above named study. ☐

.....  
Name of participant

.....  
Date

.....  
Signature

.....  
Name of person taking consent

.....  
Date

.....  
Signature

When completed: 1 for participant; 1 for researcher site file

Chief investigator's contact details:

Address:       \*\*\*\*

Email:         \*\*\*\*

Tel:            \*\*\*\*

## APPENDIX 20: Information Sheet for Cycle Two

### Information Sheet for Participants

Project Title: *“A Collaborative Team-Working Approach for Falls Prevention on Elderly Rehabilitation Wards”*

I would like to invite you to take part in a research study. Before you decide you need to understand why the research is being done and how you would be involved. Please take the time to read the following information carefully. Talk to others about the study if you wish.

- Part 1 tells you the purpose of this study and what will happen to you if you take part
- Part 2 gives you more detailed information about the conduct of the study

Please feel free to ask me if there is anything that is not clear or if you would like more information. Take your time to decide whether or not you wish to take part.

Kind regards,

Nic Turner  
Physiotherapist & PhD candidate

#### *Part 1 – Study Information:*

##### **What is the purpose of the study?**

The purpose of the study is to improve the prevention and management of patient-related falls on your ward. This will primarily be achieved through the implementation of a more collaborative method of team-working.

**Why have I been invited?**

You are one of the members of staff who regularly work on this rehabilitation ward and will form an integral part of the research.

**Do I have to take part?**

It is entirely up to you whether you choose to take part in this study or not. There is no professional or contractual obligation to participate. Please take a maximum of two weeks to read through this information sheet before making any decision as to whether to participate or not.

**What will happen to me if I take part?**

You would be expected to attend a series of group sessions with up to 10 other members of staff, over a four month period. There will be 8 sessions in total; the first and final sessions will last for approximately 1 hour, and the other 6 sessions for 20-30mins. It is recognised that circumstances often change in people's daily working life that might affect their involvement in the study. Therefore, it is not compulsory for you to attend all 8 sessions, although it will be more beneficial if you were involved as consistently as possible. There will be a feedback session held after the final group session for dissemination of findings.

These sessions (known as 'Collaborative Learning Groups') will be facilitated mainly by myself and will be conducted in the privacy of the team meeting room. These sessions will provide an opportunity:

- to further explain the purpose and structure of the research
- to disseminate the results from an earlier phase of my research
- for staff to share their perspectives on team-working and their own professional roles and responsibilities
- to educate staff and raise awareness of falls prevention issues
- to formulate ideas as to how we can measure our success
- to discuss falls incidents through the use of case studies

During the study period, you will be expected to behave with the same professional manner and good practice as you would do normally. Disclosure of sensitive information that could compromise the identity or consent of others will be dealt with through the trust's own organisational policy.

**How will the data be collected?**

The collaborative learning groups will be recorded with an audio tape recorder and later transcribed. This is to effectively capture the free-flowing conversation that will inevitably be taking place. Additional notes will be taken by me during these sessions. Staff will be allocated codenames so as to protect their identities during note-taking and audio transcription.

**How long will the study last for?**

The entire study will last for just over four months. The longer group sessions (1 hour duration) will occur at the beginning and end of the research period, and all other shorter sessions (20-30mins duration) will run approximately every two weeks in-between. Therefore, over the entire study period there will be 2 longer sessions and 6 shorter sessions.

After the research period, a written summary of the findings will be given to every participant. Findings will be disseminated to you in a feedback session held after the final group session. There will be nothing more required from you, and there will be no long-term follow-up to this study.

**What are the possible benefits of taking part?**

It is intended that the information you provide will help to improve team-working and falls services within \*\*\*\*. There will be no risk to you during the study. Participation in this research will inevitably provide an opportunity for your professional development.

**Will there be any expenses and payments?**

There will be no expenses or payments generated throughout this study as it is being fully funded by \*\*\*\*.

*This completes Part 1.*

*If the information in Part 1 has interested you and you are considering participation, please read the additional information in Part 2 before making any decision.*

**Part 2 – Additional Information:****What will happen if I don't want to carry on with the study?**

Your participation in this study is on a purely voluntary basis; you are free to withdraw from the study at any time, without giving any reason for your withdrawal.

**Will my taking part in this study be kept confidential?**

Findings from this study will be related back to my supervisors and are intended to be published at a later date in my PhD thesis. However, all information that you give will be held confidentially, and your identity will not be revealed. Information will be securely stored on a university computer, which only I have access to. Access to this electronic device is security protected. Therefore, the information that you provide will be treated with the utmost respect and dignity.

All collected data will be kept solely in my possession. If appropriate, I might use some of your responses as quotes to help ensure the authenticity of the research.

However, as mentioned earlier, every participant will be given a codename, and so your identity will not be revealed.

**What will happen to the data that is gathered?**

Any information that you provide will be confidentially stored for a maximum period of 2 years. I will need to use this information to write my PhD thesis. All data will be disposed of after this 2 year period; all audiotapes will be degaussed (erased) and physically destroyed following transcription.

**Who is organising and funding the research?**

\*\*\*\* has supplied the funding for this study, in conjunction with Northumbria University.

**Who has reviewed the study?**

All research in the NHS is looked at by an independent group of people, called a Research Ethics Committee, to protect your safety, rights, wellbeing and dignity. This study has been reviewed and given favourable opinion by Northumbria University School Research Ethics Sub Committee and County Durham & Tees Valley 2 Research Ethics Committee.

**What if there is a problem?**

If you have any questions or queries about the study, please feel free to ask me at anytime and I will do my very best to answer your concerns. If you should ever feel distressed during the group sessions, you can discuss matters and access support immediately from my academic supervisor: \*\*\*\*. She can be contacted via telephone (\*\*\*\*) or email (\*\*\*\*).

If you remain unhappy and wish to complain formally, you can do this through contacting the trust's Physiotherapy Lead:

\*\*\*\*

Tel: \*\*\*\*

If you require further information regarding this study, you can obtain independent advice from \*\*\*\* research and development department:

\*\*\*\*

Tel : \*\*\*\*

Email: \*\*\*\*

*This completes Part 2.*

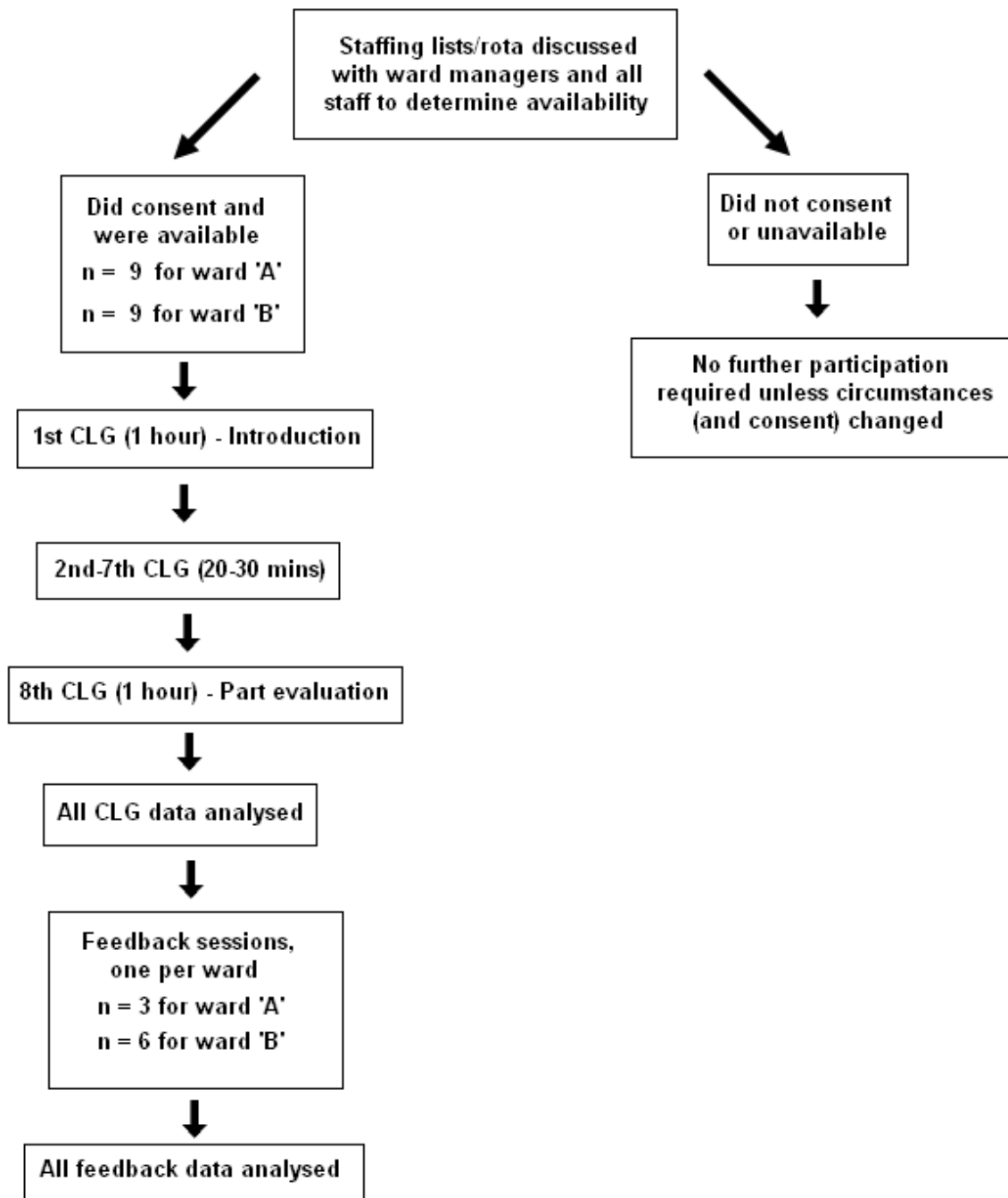
This information sheet is yours to keep and refer to if necessary.

Many thanks for your time and consideration for reading this information sheet.  
Please feel free to contact me via the details below if you have any questions or comments.

Kind regards,

Nic Turner  
Physiotherapist & PhD candidate

## APPENDIX 21: Flowchart for Cycle Two





## APPENDIX 22: REC Approval Letter for Cycle Two



### National Patient Safety Agency

#### County Durham & Tees Valley 2 Research Ethics Committee

The Tatchell Centre  
University Hospital of North Tees  
Piperknowle Road  
Stockton-on-Tees  
TS19 8PE

13 August 2009

Mr Nicholas Turner  
c/o \*\*\*\*  
Northumbria University, Coach Lane Campus  
Newcastle upon Tyne  
NE7 7XA

Dear Mr Turner

**Study Title:** A Collaborative Team-Working Approach for Falls Prevention  
on Elderly Rehabilitation Wards  
**REC reference number:** 09/H0908/52  
**Protocol number:** 1

Thank you for your email of 13 August responding to the Committee's request for further information on the above research and submitting revised documentation

The further information has been considered on behalf of the Committee by the Vice Chair.

#### Confirmation of ethical opinion

On behalf of the Committee, I am pleased to confirm a favourable ethical opinion for the above research on the basis described in the application form, protocol and supporting documentation as revised, subject to the conditions specified below.

#### Ethical review of research sites

The favourable opinion applies to all NHS sites taking part in the study, subject to management permission being obtained from the NHS/HSC R&D office prior to the start of the study (see "Conditions of the favourable opinion" below).

#### Conditions of the favourable opinion

The favourable opinion is subject to the following conditions being met prior to the start of the study.

Management permission or approval must be obtained from each host organisation prior to the start of the study at the site concerned.

For NHS research sites only, management permission for research ("R&D approval") should be obtained from the relevant care organisation(s) in accordance with NHS research governance arrangements.

Guidance on applying for NHS permission for research is available in the Integrated Research Application System or at <http://www.rdforum.nhs.uk>.

### ***Other conditions specified by the REC***

Please send/email notification to confirm that academic supervisor will be able to provide immediate support to participants in the event they become distressed as a result of taking part in this research study.

**It is the responsibility of the sponsor to ensure that all the conditions are complied with before the start of the study or its initiation at a particular site (as applicable).**

### **Approved documents**

The final list of documents reviewed and approved by the Committee is as follows:

<i>Document</i>	<i>Version</i>	<i>Date</i>
Compensation Arrangements		07 May 2009
Peer Review		21 April 2009
Protocol	1	08 May 2009
Investigator CV		01 May 2009
REC application	IRAS 2.2	03 June 2009
CV for academic supervisor		
Summary/Synopsis	Flow chart Phases I & II	
Letter of support from Sue Patterson		
Participant Information Sheet: Staff	4	13 August 2009
Participant Consent Form: Staff	3	13 August 2009
Letter confirming immediate counselling support available		
Letter of invitation to participant	3	30 June 2009

### **Statement of compliance**

The Committee is constituted in accordance with the Governance Arrangements for Research Ethics Committees (July 2001) and complies fully with the Standard Operating Procedures for Research Ethics Committees in the UK.

### **After ethical review**

Now that you have completed the application process please visit the National Research Ethics Service website > After Review

You are invited to give your view of the service that you have received from the National Research Ethics Service and the application procedure. If you wish to make your views known please use the feedback form available on the website.

The attached document “*After ethical review – guidance for researchers*” gives detailed guidance on reporting requirements for studies with a favourable opinion, including:

- Notifying substantial amendments
- Adding new sites and investigators

- Progress and safety reports
- Notifying the end of the study

The NRES website also provides guidance on these topics, which is updated in the light of changes in reporting requirements or procedures.

We would also like to inform you that we consult regularly with stakeholders to improve our service. If you would like to join our Reference Group please email [referencegroup@nres.npsa.nhs.uk](mailto:referencegroup@nres.npsa.nhs.uk).

<b>09/H0908/52</b>
--------------------

<b>Please quote this number on all correspondence</b>
---

Yours sincerely

**Sue Brooks**  
**Vice Chair**

## LIST OF REFERENCES

- Abyad, A. (2004) 'Physicians, interdisciplinary teams, and communication in nursing homes', *Long Term Care Interface*, 5(5), pp. 28-31.
- Aditya, B.S., Sharma, J.C., Allen, S.C. and Vassallo, M. (2003) 'Predictors of a nursing home placement from a non-acute geriatric hospital', *Clinical Rehabilitation*, 17(1), pp. 108-113.
- American Geriatrics Society (2011) 'Summary of the updated American Geriatrics Society/British Geriatrics Society clinical practice guideline for prevention of falls in older persons', *Journal of the American Geriatrics Society*, 59(1), pp. 148-157.
- American Geriatrics Society (2001) 'Guideline for prevention of falls in older persons', *Journal of the American Geriatrics Society*, 49(5), pp. 664-72.
- Aronson, J. (1994) 'A pragmatic view of thematic analysis', *The Qualitative Report*, 2(1). Available at: <http://www.nova.edu/ssss/QR/BackIssues/QR2-1/aronson.html> (Accessed: 12 June 2009).
- Atwal, A., Tattersall, K., Murphy, S., Davenport, N., Craik, C., Caldwell, K. and McIntyre, A. (2007) 'Older adults experiences of rehabilitation in acute health care', *Scandinavian Journal of Caring Sciences*, 21(3), pp. 371-378.
- Atwal, A., Tattersall, K., Caldwell, K. and Craik, C. (2006) 'Multidisciplinary perceptions of the role of nurses and healthcare assistants in rehabilitation of older adults in acute health care', *Journal of Clinical Nursing*, 15(11), pp. 1418-1425.
- Australian Commission on Safety and Quality in Health Care (2009) *Guidebook for preventing falls and harm from falls in older people: Australian hospitals*. Australia: Office of the Australian Commission on Safety and Quality in Health Care.
- Bae, S.H., Mark, B. and Fried, B. (2010) 'Impact of nursing unit turnover on patient outcomes in hospitals', *Journal of Nursing Scholarship*, 42(1), pp. 40-49.

- Banez, C., Tully, S., Amaral, L., Kwan, D., Kung, A., Mak, K., Moghabghab, R. and Alibhai, S.M.H. (2008) 'Development, implementation, and evaluation of an interprofessional falls prevention program for older adults', *Journal of the American Geriatrics Society*, 56(8), pp. 1549-1555.
- Barbour, R.S. (2001) 'Checklists for improving rigour in qualitative research: a case of the tail wagging the dog?', *British Medical Journal*, 322(7294), pp. 1115-1117.
- Barreca, S., Sigouin, C.S., Lambert, C. and Ansley, B.A. (2004) 'Effects of extra training on the ability of stroke survivors to perform an independent sit-to-stand: a randomized controlled trial', *Journal of Geriatric Physical Therapy*, 27(4), pp. 59-68.
- Bateni, H. and Maki, B.E. (2005) 'Assistive devices for balance and mobility: benefits, demands, and adverse consequences', *Archives of Physical Medicine and Rehabilitation*, 86(1), pp. 134-145.
- Batorowicz, B. and Shepherd, T.A. (2008) 'Measuring the quality of transdisciplinary teams', *Journal of Interprofessional Care*, 22(6), pp. 612-620.
- Bauer, M., Fitzgerald, L., Haesler, E. and Manfrin, M. (2009) 'Hospital discharge planning for frail older people and their family. Are we delivering best practice? A review of the evidence', *Journal of Clinical Nursing*, 18(18), pp. 2539-2546.
- Baxter, P. and Markle-Reid, M. (2009) 'An interprofessional team approach to fall prevention for older home care clients 'at risk' of falling: health care providers share their experiences', *International Journal of Integrated Care*, 9(2), pp. 1-12.
- Bennett-Emslie, G. and McIntosh, J. (1995) 'Promoting collaboration in the primary care team - the role of the practice meeting', *Journal of Interprofessional Care*, 9(3), pp. 251-256.
- Benten, J. and Spalding, N.J. (2008) 'Intermediate care: what are service users' experiences of rehabilitation?', *Quality in Ageing*, 9(3), pp. 4-14.
- Bhaskar, R.A. (2000) *From East to West: odyssey of a soul*. London: Routledge.

Bhaskar, R.A. (1993) *Dialectic: the pulse of freedom*. London: Verso Books.

Bhaskar, R.A. (1979) *The possibility of naturalism*. 3<sup>rd</sup> edn. London: Routledge.

Bhaskar, R.A. (1975) *A realist theory of science*. London: Verso Books.

Bjorn, P. and Boulus, N. (2011) 'Dissenting in reflective conversations: critical components of doing action research', *Action Research*, 9(3), pp. 282-302.

Blaikie, N. (2007) *Approaches to social enquiry*. 2<sup>nd</sup> edn. Cambridge: Polity Press.

Bowles, K.H. (2000) 'Patient problems and nurse interventions during acute care and discharge planning', *Journal of Cardiovascular Nursing*, 14(3), pp. 29-41.

Brajtman, S., Hall, P., Weaver, L., Higuchi, K., Allard, P. and Mullins, D. (2008) 'An interprofessional educational intervention on delirium for health care teams: providing opportunities to enhance collaboration', *Journal of Interprofessional Care*, 22(6), pp. 658-660.

Braun, V. and Clarke, V. (2006) 'Using thematic analysis in psychology', *Qualitative Research in Psychology*, 3(2), pp. 77-101.

Bridger, P. (1992) 'The move to patient-focused care', *American Journal of Nursing*, 92(9), pp. 26-33.

Brunero, S., Lamont, S. and Coates, M. (2010) 'A review of empathy education in nursing', *Nursing Inquiry*, 17(1), pp. 65-74.

Bryman, A. (2008) *Social research methods*. 3<sup>rd</sup> edn. Oxford: University Press.

Cameron, I.D., Murray, G.R., Gillespie, L.D., Robertson, M.C., Hill, K.D., Cumming, R.G. and Kerse, N. (2010) 'Interventions for preventing falls in older people in nursing care facilities and hospitals', *Cochrane Database of Systematic Reviews*, Issue 1. Art.No.: CD005465. DOI: 10.1002/14651858.CD005465.pub2.

- Campbell, A.J. and Robertson, M.C. (2009) 'Not a retreat, but advancing on numerous fronts', *Journal of the American Geriatrics Society*, 57(3), pp. 565-566.
- Carr, W. and Kemmis, S. (1996) 'Practical action as praxis', in Pollard, A. (ed.) *Readings for reflective teaching in the primary school*. London: Cassell, pp. 39.
- Carr, W. and Kemmis, S. (1986) *Becoming critical: education knowledge and action research*. London: Falmer Press.
- Carroll, D.L., Dykes, P.C. and Hurley, A.C. (2010) 'Patients' perspectives of falling while in an acute care hospital and suggestions for prevention', *Applied Nursing Research*, 23(4), pp. 238-241.
- Chapman, T., Hugman, R. and Williams, A. (1995) 'Effectiveness of interprofessional relationships: a case illustration of joint working', in Soothill, K., Mackay, L. and Webb, C. (eds.) *Interprofessional Relations in Health Care*. London: Edward Arnold Publishers, pp. 46-61.
- Chartered Society of Physiotherapy (2001) 'Effectiveness of falls prevention and rehabilitation strategies in older people: implications for physiotherapy', *The Chartered Society of Physiotherapy*, 1, pp. 1-24.
- Clark, A.M. (2003) 'It's like an explosion in your life...': lay perspectives on stress and myocardial infarction', *Journal of Clinical Nursing*, 12(4), pp. 544-553.
- Clark, P.G. (1997) 'Values in health care professional socialisation: implications for geriatric education in interdisciplinary teamwork', *Gerontologist*, 37(4), pp. 441-451.
- Coghlan, D. and Brannick, T. (2001) *Doing action research in your own organization*. London: Sage Publications.
- Coghlan, D. and Casey, M. (2001) 'Action research from inside: issues and challenges in doing action research in your own hospital', *Journal of Advanced Nursing*, 35(5), pp. 674-682.

- Cohen, D. and Crabtree, B. (2006) *Qualitative Research Guidelines Project*. Available at: <http://www.qualres.org/HomeCrab-3492.html> (Accessed: 15 April 2011).
- Collier, A. (1998) 'Realism and formalism in ethics', in Archer, M., Bhaskar, R.A., Collier, A., Lawson, T. and Norrie, A. (eds) *Critical Realism: essential writings*. London: Routledge, pp. 696.
- Cott, C. (1997) 'We decide, you carry it out: a social network analysis of multidisciplinary long-term care teams', *Social Science and Medicine*, 45(9), pp. 1411-1421.
- Coulter, A., Fitzpatrick, R. and Cornwell, J. (2009) *The point of care measures of patients' experience in hospital: purpose, methods and uses*, *The Kings Fund* [Online]. Available at: <http://www.kingsfund.org.uk> (Accessed: 23 June 2011).
- Coussement, J., De Paepe, L., Schwendimann, R., Dehaerynck, K., Dejaeger, E. and Milisen, K. (2008) 'Interventions for preventing falls in acute- and chronic-care hospitals: a systematic review and meta-analysis', *Journal of the American Geriatrics Society*, 56(1), pp. 29-36.
- Cumming, R.G., Sherrington, C., Lord, S.R., Simpson, J.M., Vogler, C., Cameron, I.D. and Naganathan, V. (2008) 'Cluster randomised trial of a targeted multifactorial intervention to prevent falls among older people in hospital', *British Medical Journal*, 336(7647), pp. 758-760.
- Davenport, R.D., Vaidean, G.D., Jones, C.B., Chandler, M.A., Kessler, L.A., Mion, L.C. and Shorr, R.I. (2009) 'Falls following discharge after an in-hospital fall', *BMC Geriatrics*, 9(53), pp. 1-7.
- Day, J., Higgins, I. and Koch, T. (2009) 'The process of practice redesign in delirium care for hospitalised older people: a participatory action research study', *International Journal of Nursing Studies*, 46(1), pp. 13-22.
- Dean, K., Joseph, J. and Norrie, A. (2005) 'New essays in Critical Realism', *New Formations*, 56(1), pp. 7-26.



Delbaere, K., Close, J.C., Brodaty, H., Sachdev, P. and Lord, S.R. (2010) 'Determinants of disparities between perceived and physiological risk of falling among elderly people: cohort study', *British Medical Journal*, 341(7770), pp. 1-8.

Delbaere, K., Crombez, G., Vanderstraeten, G., Willems, T. and Cambier, D. (2004) 'Fear-related avoidance of activities, falls and physical frailty. A prospective community-based cohort study', *Age and Ageing*, 33(4), pp. 368-373.

Delva, D., Jamieson, M. and Lemieux, M. (2008) 'Team effectiveness in academic primary health care teams', *Journal of Interprofessional Care*, 22(6), pp. 598-611.

Dempsey, J. (2008) 'Risk assessment and fall prevention: practice development in action', *Contemporary Nurse: A Journal for the Australian Nursing Profession*, 29(2), pp. 123-134.

Department of Health (2010) *Equity and excellence: Liberating the NHS*. London: The Stationary Office.

Department of Health (2009) *Falls and Fractures: Effective Interventions in Health and Social Care*. London: The Stationary Office.

Department of Health (2005) *The National Service Framework for Long-Term Conditions*. London: The Stationary Office.

Department of Health (2001) *National Service Framework for Older People*. London: The Stationary Office.

Donald, I.P., Pitt, K., Armstrong, E. and Shuttleworth, H. (2000) 'Preventing falls on an elderly care rehabilitation ward', *Clinical Rehabilitation*, 14(2), pp. 178-185.

Drahota, A., Gal, D. and Windsor, J. (2007) 'Flooring as an intervention to reduce injuries from falls in healthcare settings: an overview', *Quality in Ageing - Policy, Practice and Research*, 8(1), pp. 3-9.

Duffin, C. (2010) 'Simple practice changes lead to better patient experiences', *Nursing Management*, 17(6), pp. 6-7.

- Faber, M.J., Bosscher, R.J., Chin, A.P.M. and Van-Wieringen, P.C. (2006) 'Effects of exercise programs on falls and mobility in frail and pre-frail older adults: a multicenter randomized controlled trial', *Archives of Physical Medicine and Rehabilitation*, 87(7), pp. 885-896.
- Fagin, C.M. (1992) 'Collaboration between nurses and physicians: no longer a choice'. *Academic Medicine*, 67(5), pp. 295-303.
- Faulkner, M. (2001) 'A measure of patient empowerment in hospital environments catering for older people', *Journal of Advanced Nursing*, 34(5), pp. 676-686.
- Fenton, W. (2008) 'Introducing a post-fall assessment algorithm into a community rehabilitation hospital for older adults', *Nursing Older People*, 20(10), pp. 36-39.
- Field, R. and West, M.A. (1995) 'Teamwork in primary health care: perspectives from practices', *Journal of Interprofessional Care*, 9(2), pp. 123-130.
- Findik, U.Y., Unsar, S. and Sut, N. (2010) 'Patient satisfaction with nursing care and its relationship with patient characteristics', *Nursing and Health Sciences*, 12(2), pp. 162-169.
- Fonad, E., Burnard, P. and Emami, A. (2008) 'Shielding or caging? Healthcare staffs' views on fall risk and protection in Stockholm', *International Journal of Older People Nursing*, 3(1), pp. 46-54.
- Fossey, E., Harvey, C., McDermott, F. and Davidson, L. (2002) 'Understanding and evaluating qualitative research', *Australian and New Zealand Journal of Psychiatry*, 36(6), pp. 717-732.
- Freidman V.J. (2001) 'Action science: creating communities of inquiry in communities of practice', in Reason, P. and Bradbury, H. (eds.) *Handbook of action research: participative inquiry and practice*. London: Sage Publications, pp. 159-170.
- Fulcher, E. (2005) *What is Discourse Analysis?*. Available at: [http://eamonfulcher.com/discourse\\_analysis.html](http://eamonfulcher.com/discourse_analysis.html) (Accessed: 10 March 2010).

Galliher, J.F. (1973) 'The protection of human subjects: a re-examination of the professional code of ethics', *The American Sociologist*, 8(3), pp.93-100.

Garman, D.A., Brennan, J.S., Dufault, M., Ehmann, J.M., Hehl, R.M. and Towers, N.H. (2005) 'Translating fall prevention best practices in the hospital setting: reflecting on McInnes and Askie's (2004) evidence review', *Worldviews on Evidence-Based Nursing*, 2(2), pp. 94-97.

Garbett, R. and McCormack, B. (2002) 'The qualities and skills of practice developers', *Nursing Standard*, 16(50), pp. 33-36.

Gibb, C.E., Morrow, M., Clarke, C.L., Cook, G., Gertig, P. and Ramprogus, V. (2002) 'Transdisciplinary working: evaluating the development of health and social care provision in mental health', *Journal of Mental Health*, 11(3), pp. 339-350.

Gillespie, L.D., Gillespie, W.J., Robertson, M.C., Lamb, S.E., Cumming, R.G. and Rowe, B.H. (2003) 'Interventions for preventing falls in elderly people', *Cochrane Database of Systematic Reviews*, Issue 4. CD000340, DOI: 10.1002/14651858.CD000340.

Gillespie, L.D., Robertson, M.C., Gillespie, W.J., Lamb, S.E., Gates, S., Cumming, R.G. and Rowe, B.H. (2009) 'Interventions for preventing falls in older people living in the community', *Cochrane Database of Systematic Reviews*, Issue 2. Art. No.: CD007146. DOI: 10.1002/14651858.CD007146.pub2.

Greene, E., Cunningham, C.J., Eustace, A., Kidd, N., Clare, A.W. and Lawlor, B.A. (2001) 'Recurrent falls are associated with increased length of stay in elderly psychiatric inpatients', *International Journal of Geriatric Psychiatry*, 16(10), pp. 965-8.

Greenhalgh, T. and Taylor, R. (1997) 'How to read a paper: papers that go beyond numbers (qualitative research)', *British Medical Journal*, 315(7110), pp. 740-743.

Gregory, J. and Haigh, C. (2008) 'Multi-disciplinary interpretations of pain in older patients on medical units', *Nurse Education in Practice*, 8(4), pp. 249-257.

Guba, E. G., and Lincoln, Y. S. (1994) 'Competing paradigms in qualitative research', in Denzin, N.K. and Lincoln, Y.S. (eds.) *Handbook of qualitative research*. London: Sage Publications. pp. 105-117.

Häggblom-Kronlöf, G. and Sonn U. (2007) 'Use of assistive devices - a reality full of contradictions in elderly persons' everyday life', *Disability and Rehabilitation Assistive Technology*, 2(6), pp. 335-345.

Haines, T.P., Bell, R.A.R. and Varhese, P.N. (2010) 'Pragmatic, cluster randomized trial of a policy to introduce low-low beds to hospital wards for the prevention of falls and fall injuries', *Journal of the American Geriatrics Society*, 58(3), pp. 435-441.

Haines, T.P., Massey, B., Varghese, P., Fleming, J. and Gray., L. (2009) 'Inconsistency in classification and reporting of in-hospital falls', *Journal of the American Geriatrics Society*, 57(3), pp. 517-523.

Haines, T.P., Hill, K.D., Bennell, K.L. and Osborne, R.H. (2007) 'Additional exercise for older subacute hospital inpatients to prevent falls: benefits and barriers to implementation and evaluation', *Clinical Rehabilitation*, 21(8), pp. 742-753.

Haines, T.P., Hill, K.D., Bennell, K.L. and Osborne, R.H. (2006) 'Patient education to prevent falls in subacute care', *Clinical Rehabilitation*, 20(11), pp. 970-979.

Haines, T.P., Bennell, K.L., Osborne, R.H. and Hill, K.D. (2004) 'Effectiveness of targeted falls prevention programme in subacute hospital setting: randomised controlled trial', *British Medical Journal*, 328(7441), pp. 1-6.

Hannan, A. (2007) *Interviews in Education Research*. Available at: <http://www.edu.plymouth.ac.uk/resined/actionresearch/arhome.htm> (Accessed: 14 March 2012).

Hart, E. and Bond, M. (1995) *Action research for health care and social care: a guide to practice*. Buckingham: Open University Press.

- Hathaway, J., Walsh, J., Lacey, C. and Saenger, H. (2001) 'Insights obtained from an evaluation of a falls prevention program set in a rural hospital', *Australian Journal of Rural Health*, 9(4), pp. 172-177.
- Hayes, N. (2004) 'Prevention of falls among older patients in the hospital environment', *British Journal of Nursing*, 13(15), pp. 896-901.
- Healey, F. (2010) 'A guide on how to prevent falls and injury in hospitals', *Nursing Older People*, 22(9), pp. 16-22.
- Healey, F.M., Cronberg, A. and Oliver, D. (2009) 'Bedrail use in English and Welsh hospitals', *Journal of the American Geriatrics Society*, 57(10), pp. 1887-1891.
- Healey, F., Monro, A., Cockram, A., Adams, V. and Heseltine, D. (2004) 'Using targeted risk factor reduction to prevent falls in older in-patients: a randomised controlled trial', *Age and Ageing*, 33(4), pp. 390-395.
- Heinze, C., Halfens, R. and Dassen, T. (2008) 'The reliability of the Hendrich Fall Risk Model in a geriatric hospital', *International Journal of Older People Nursing*, 3(4), pp. 252-257.
- Hellstrom, K., Vahlberg, B., Urell, C. and Emtner, M. (2009) 'Fear of falling, fall-related self-efficacy, anxiety and depression in individuals with chronic obstructive pulmonary disease', *Clinical Rehabilitation*, 23(12), pp. 1136-1144.
- Hendriks, M.R.C., Bleijlevens, M.H.C., Van Haastregt, J.C.M., Crebolder, H.F.J.M., Diederiks, J.P.M., Evers, S.M.A.A., Mulder, W.J. Kempen, G.I.J.M., Van Rossum, E., Ruijgrok, J.M., Stalenhoef, P.A. and Van Eijk, J.T.M. (2008) 'Lack of effectiveness of a multidisciplinary fall-prevention program in elderly people at risk: a randomized, controlled trial', *Journal of the American Geriatrics Society*, 56(8), pp. 1390-1397.
- Higgins, I., Slater, L., Van Der Riet, P. and Peek, C. (2007) 'The negative attitudes of nurses towards older patients in the acute hospital setting: a qualitative descriptive study', *Contemporary Nurse*, 26(2), pp. 225-237.

- Hignett, S. and Masud, T. (2006) 'A review of environmental hazards associated with in-patient falls', *Ergonomics*, 49(5-6), pp. 605-616.
- Horak, F.B. (2006) 'Postural orientation and equilibrium: what do we need to know about neural control of balance to prevent falls?', *Age and Ageing*, 35(S2), pp. 7-11.
- Howe, T.E., Rochester, L., Jackson, A., Banks, P.M.H. and Blair, V.A. (2007) 'Exercise for improving balance in older people', *Cochrane Database of Systematic Reviews*, Issue 4. Art. No.: CD004963. DOI: 10.1002/14651858.CD004963.pub2.
- Howland, J., Peterson, E.W., Levin, W.C., Fried, L., Pordon, D. and Bak, S. (1993) 'Fear of falling among the community-dwelling elderly', *Journal of Aging and Health*, 5(2), pp. 229-243.
- Hubbard, R.E., O'Mahoney, S.M., Cross, E., Morgan, A., Hortop, H., Morse, R.E. and Topham, L. (2004) 'The ageing of the population: implications for multidisciplinary care in hospital', *Age and Ageing*, 33(5), pp. 479-482.
- Institute for Clinical Systems Improvement (2010) 'Health care protocol: prevention of falls (acute care)', *Institute for Clinical Systems Improvement* [Online]. Available at: <http://www.icsi.org> (Accessed: 10 May 2011).
- Jackson, L. and Gleason, J. (2004) 'Proactive management breaks the fall cycle', *Nursing Management*, 35(6), pp. 37-38.
- Jarvis, N., Kerr, K. and Mockett, S. (2007) 'Pilot study to explore the feasibility of a randomised controlled trial to determine the dose effect of physiotherapy on patients admitted to hospital following a fall', *Practical Evidence*, 2(2), pp. 4-12.
- Jensen, J., Nyberg, L., Gustafson, Y. and Lundin-Olsson, L. (2003) 'Fall and injury prevention in residential care-effects in residents with higher and lower levels of cognition', *Journal of the American Geriatrics Society*, 51(5), 627-635.
- Jessop, B. (2005) 'Critical Realism and the strategic relational approach', *New Formations*, 56(1), pp. 40-53.

- Jørstad, E.C., Hauer, K., Becker, C. and Lamb, S.E. (2005) 'Measuring the psychological outcomes of falling: a systematic review', *Journal of the American Geriatrics Society*, 53(3), pp. 501-510.
- Kannus, P., Khan, K.M. and Lord, S.R. (2006) 'Preventing falls among elderly people in the hospital environment', *Medical Journal of Australia*, 184(8), 372-373.
- Kannus, P., Parkkari, J., Niemi, S. and Palvanen, M. (2005) 'Fall-induced deaths among elderly people', *American Journal of Public Health*, 95(3), pp. 422-424.
- Kato, M., Izumi, K., Shirai, S., Kondo, K., Kanda, M., Watanabe, I., Ishii, K. and Saito, R. (2008) 'Development of a fall prevention program for elderly Japanese people', *Nursing and Health Sciences*, 10(4), pp. 281-290.
- Kellogg International Working Group (1987) 'The prevention of falls in later life', *Danish Medical Bulletin*, 34(4), pp. 215-219.
- Kelly, A. (1989) 'Education or indoctrination? The ethics of feminist educational research', in Burgess, R.G. (ed.) *The ethics of educational research*. Philadelphia: Falmer Press, pp. 100-113.
- Kemmis, S. (2009) 'Action research as a practice-based practice', *Educational Action Research*, 17(3), pp. 463-474.
- Khanlou, N. and Peter, E. (2005) 'Participatory action research: considerations for ethical review', *Social Science & Medicine*, 60(10), pp. 2333-2340.
- Kloseck, M., Crilly, R.G. and Gibson, M. (2008) 'Can personality theory help us understand risk of falls?', *Journal of Rehabilitation Research & Development*, 45(8), pp. 1125-1134.
- Kneafsey, R. (2007) 'A systematic review of nursing contributions to mobility rehabilitation: examining the quality and content of the evidence', *Journal of Clinical Nursing*, 16(11), pp. 325-340.

- Kong, K.S., Lee, F., Mackenzie, A.E. and Lee, D.T.F. (2002) 'Psychosocial consequences of falling: the perspective of older Hong Kong Chinese who had experienced recent falls', *Journal of Advanced Nursing*, 37(3), pp. 234-242.
- Krueger, D. (1994) *Focus groups: a practical guide for applied research*. London: Sage Publications.
- Kuhn, T. S. (1996) *The structure of scientific revolutions*. Chicago: The University of Chicago Press.
- Lachman, M. E., Howland, J., Tennstedt, S., Jette, A., Assmann, S. and Peterson, E. W. (1998) 'Fear of falling and activity restriction: The Survey of Activities and Fear of Falling in the Elderly (SAFE)', *The Journals of Gerontology*, 53(1), pp. 43-50.
- Lamb, S.E., Jorstad-Stein, E.C., Hauer, K. and Becker, C. (2005) 'Development of a common outcome data set for fall injury prevention trials: the Prevention of Falls Network Europe consensus', *Journal of the American Geriatrics Society*, 53(9), pp. 1618-22.
- Lankshear, A.J., Sheldon, T.A. and Maynard, A. (2005) 'Nurse staffing and healthcare outcomes: a systematic review of the international research evidence', *Advances in Nursing Science*, 28(2), pp. 163-174.
- Lathlean, J. (1996) 'Ethical issues for nursing research: a methodological focus', *Nursing Times Research*, 1(3), pp. 175-183.
- Law Commission (1995) *Law Commission Report 231, Mental Incapacity*. London: The Stationary Office.
- Lincoln, Y.S. and Guba, E.G. (1985) *Naturalistic Inquiry*. California: Sage Publications.
- Long, S. (1996) 'Primary health care team workshop: team members' perspectives', *Journal of Advanced Nursing*, 23(5), pp. 935-941.
- Lord, S., Sherrington, C., Menz, H. and Close, J. (2007) *Falls in Older People: Risk Factors and Strategies for Prevention*. 2<sup>nd</sup> edn. Cambridge: University Press.



- Lovullo, C., Rolandi, S., Rossetti, A.M. and Lusignani, M. (2010) 'Accidental falls in hospital inpatients: evaluation of sensitivity and specificity of two risk assessment tools', *Journal of Advanced Nursing*, 66(3), pp. 690-696.
- Mador, J.E., Giles, L., Whitehead, C. and Crotty, M. (2004) 'A randomized controlled trial of a behavior advisory service for hospitalized older patients with confusion', *International Journal of Geriatric Psychiatry*, 19(9), pp. 858-863.
- Marks-Maran, D. (1994) 'Nursing research', in Tschudin, V. (ed.) *Ethics, Education and Research*. London: Scutari Press, pp. 40-71.
- Marshall, H. (1994) 'Discourse analysis in an occupational context', in Cassell, C. and Symon, G. (eds.) *Qualitative methods in organizational research*. London: Sage Publications, pp. 91-106.
- May, T. (1993) *Social Research: Issues, Methods and Process*. Buckingham: Open University Press.
- Mayo, N.E., Gloutney, L. and Levy, A.R. (1994) 'A randomized trial of identification bracelets to prevent falls among patients in a rehabilitation hospital', *Archives of Physical Medicine & Rehabilitation*, 75(12), pp. 1302-1308.
- Mays, N. and Pope, C. (2000) 'Qualitative research in health care: assessing quality in qualitative research', *British Medical Journal*, 320(7226), pp. 50-52.
- Mays, N. and Pope, C. (1995) 'Qualitative research: rigour and qualitative research', *British Medical Journal*, 311(6997), pp. 109-112.
- McCallin, A. (2001) 'Interdisciplinary practice - a matter of teamwork: an integrated literature review', *Journal of Clinical Nursing*, 10(4), pp. 419-428.
- McCormack, B., Manley, K. and Garbett, R. (2004) *Practice development in nursing*. Oxford: Blackwell Publishing.

- McKenzie, J.A.L., Blandford, A.A., Menec, V.H., Boltz, M. and Capezuti, E. (2011) 'Hospital nurses' perceptions of the geriatric care environment in one Canadian health care region', *Journal of Nursing Scholarship*, 43(2), pp. 181-187.
- McLafferty, I. and Morrison, F. (2004) 'Attitudes towards hospitalized older adults', *Journal of Advanced Nursing*, 47(4), pp. 446-453.
- McLellan, H., Bateman, H. and Bailey, P. (2005) 'The place of 360 degree appraisal within a team approach to professional development', *Journal of Interprofessional Care*, 19(2), pp. 137-148.
- Meyer, J.E. (1993) 'New paradigm research in practice: the trails and tribulations of action research', *Journal of Advanced Nursing*, 18(7), pp. 1066-1072.
- Miles, M. B. and Huberman, A. M. (1994) *Qualitative Data Analysis*. California: Sage Publications.
- Myers, H. (2003) 'Hospital fall risk assessment tools: a critique of the literature', *International Journal of Nursing Practice*, 9(4), pp. 223-225.
- Myers, H. and Nikoletti, S. (2003) 'Fall risk assessment: a prospective investigation of nurses' clinical judgement and risk assessment tools in predicting patient falls', *International Journal of Nursing Practice*, 9(3), pp. 158-165.
- Nadkarni, J.B., Iyengar, K.P., Dussa, C., Watve, S. and Vishwanath, K. (2005) 'Orthopaedic injuries following falls by hospital in-patients', *Gerontology*, 51(5), pp. 329-333.
- Nash, S. and Govier, I. (2009) 'Effective team leadership: techniques that nurses can use to improve teamworking', *Nursing Times*, 105(19), pp. 22-24.
- National Institute for Clinical Excellence (2004) 'Falls: the assessment and prevention of falls in older people', *National Institute for Clinical Excellence*, 21, pp. 1-29.

National Nursing Research Unit (2011) 'Implementing and sustaining change in the contemporary NHS: lessons from the Productive Ward', *Policy+*, 29, pp. 1-2. *Kings College London* [Online]. Available at: <http://www.kcl.ac.uk/schools/nursing/nnru/policy> (Accessed: 3 May 2011).

National Patient Safety Agency (2011) *Rapid response report: essential care after an in-patient fall*. London: National Patient Safety Agency.

National Patient Safety Agency (2010) *Slips trips and falls data update*. London: National Patient Safety Agency.

National Patient Safety Agency (2007) *Slips, trips and falls in hospital*. London: National Patient Safety Agency.

NHS Institute for Innovation and Improvement (2011) *Experience Based Design*. Available at: [http://www.institute.nhs.uk/quality\\_and\\_value/introduction/experience\\_based\\_design.html](http://www.institute.nhs.uk/quality_and_value/introduction/experience_based_design.html) (Accessed: 6 June 2011).

Oliver, D. (2008) 'Preventing falls and falls-injuries in hospitals care facilities', *Clinical Gerontology*, 17(2), pp. 75-91.

Oliver, D. (2007) 'Preventing falls and fall injuries in hospital: a major risk management challenge', *Clinical Risk*, 13(5), pp. 173-178.

Oliver, D., Connelly, J.B., Victor, C.R., Shaw, F.E., Whitehead, A., Genc, Y., Vanoli, A., Martin, F.C. and Gosney, M.A. (2006) 'Strategies to prevent falls and fractures in hospitals and care homes and effect of cognitive impairment: a systematic review and meta-analyses', *British Medical Journal*, 334(7584), pp. 82-88.

Oliver, D. (2004) 'Prevention of falls in hospital inpatients: agendas for research and practice', *Age and Ageing*, 33(4), pp. 328-330.

Oliver, D., Daly, F., Martin, F. C. and McMurdo, M. E. (2004) 'Risk factors and risk assessment tools for falls in hospital in-patients: a systematic review', *Age and Ageing*, 33(2), pp. 122-130.

Olshansky, E., Sacco, D., Braxter, B., Dodge, P., Hughes, E., Ondeck, M., Stubbs, M.L. and Upvall, M.J. (2005) 'Participatory action research to understand and reduce health disparities', *Nursing Outlook*, 53(3), pp. 121-126.

Portillo, M.C. (2008) 'Understanding the practical and theoretical development of social rehabilitation through action research', *Journal of Clinical Nursing*, 18(2), pp. 234-245.

Potter, P., Barr, N., McSweeney, M. and Sledge, J. (2003) 'Identifying nurse staffing and patient outcome relationships: a guide for change in care delivery', *Nursing Economics*, 21(4), pp. 158-166.

Proudfoot, J.G., Bubner, T., Amoroso, C., Swan, E., Holton, C., Winstanley, J., Beilby, J. and Harris, M.F. (2009) 'Chronic care team profile: a brief tool to measure the structure and function of chronic care teams in general practice', *Journal of Evaluation in Clinical Practice*, 15(4), pp. 692-698.

Pryor, J. and O'Connell, B. (2009) 'Incongruence between nurses' and patients' understandings and expectations of rehabilitation', *Journal of Clinical Nursing*, 18(12), pp. 1766-1774.

Public Health Resource Unit [PHRU] (2011) *Critical Appraisal Skills Programme*. Available at: <http://www.phru.nhs.uk/Pages/PHD/CASP.htm> (Accessed 10 October 2011).

Raine, S., Meadows, L. and Lynch-Ellerington, M. (eds.) (2009) *Bobath concept: theory and clinical practice in neurological rehabilitation*. Oxford: Wiley-Blackwell.

Randers, I., Olson, T.H. and Mattiasson, A.C. (2002) 'Confirming older adult patients' views of who they are and would like to be', *Nursing Ethics*, 9(4), pp. 416-431.

Reed, J., Pearson, P., Douglas, B., Swinburne, S. and Wilding, H. (2002) 'Going home from hospital - an appreciative inquiry study', *Health and Social Care in the Community*, 10(1), pp. 36-45.

Rees, G., Edmunds, S. and Huby, G. (2005) 'Evaluation and development of integrated teams: the use of Significant Event Analysis', *Journal of Interprofessional Care*, 19(2), pp. 125-136.

Reeves, S., Freeth, D., McCrorie, P. and Perry, D. (2002) "'It teaches you what to expect in the future . . .'" Interprofessional learning on a training ward for medical, nursing, occupational therapy and physiotherapy students', *Medical Education*, 36(4), pp. 337-344.

Reilly, C. (2001) 'Transdisciplinary approach: an atypical strategy for improving outcomes in rehab and long-term acute care settings', *Rehabilitation Nursing*, 26(6), pp. 216-244.

Renteln-Kruse, W. and Krause, T. (2007) 'Incidence of in-hospital falls in geriatric patients before and after the introduction of an interdisciplinary team-based fall-prevention intervention', *Journal of the American Geriatrics Society*, 55(12), pp. 2068-2074.

Renteln-Kruse, W. and Krause, T. (2004) 'When do elderly in-hospital patients fall?', *Age and Ageing*, 33(4), pp. 413.

Renteln-Kruse, W., Krause, T., Dieckmann, P. and Vogel, J. (2006) 'Geriatric patients' mobility status as reflected by the relevant items of the Barthel Index and in-hospital falls', *Journal of the American Geriatrics Society*, 54(6), pp. 1012.

Richards, S., Donovan, S., Victor, C. and Ross, F. (2007) 'Standing secure amidst a falling world? Practitioner understandings of old age in responses to a case vignette', *Journal of Interprofessional Care*, 21(3), pp. 335-349.

Roberts, K. (2001) 'Across the health–social care divide: elderly people as active users of health care and social care', *Health and Social Care in the Community*, 9(2), pp. 100-107.

Robertson, K. (2009) 'Becoming a facilitator: tips for the uninitiated', *Canadian Nurse*, 105(8), pp. 6-7.

Robson, C. (2011) *Real world research*. 3<sup>rd</sup> edn. Chichester: John Wiley & Sons Ltd.

Roe, B., Howell, F., Riniotis, K., Beech, R., Crome, P. and Ong, B.N. (2008) 'Older people's experience of falls: understanding, interpretation and autonomy', *Journal of Advanced Nursing*, 63(6), pp. 586-596.

Rolfe, G. (2006) 'Validity, trustworthiness and rigour: quality and the idea of qualitative research', *Journal of Advanced Nursing*, 53(3), pp. 304-310.

Ross, F., Donovan, S., Brearley, S., Victor, C., Cottee, M., Crowther, P. and Clark, E. (2005) 'Involving older people in research: methodological issues', *Health and Social Care in the Community*, 13(3), 268-275.

Royal College of Physicians (2011) 'Falling standards, broken promises: report of the national audit of falls and bone health in older people 2010', *Royal College of Physicians* [Online]. Available at: <http://www.rcplondon.ac.uk/resources> (Accessed: 16 May 2011).

Royal College of Physicians (2011) 'FallSafe project: information sheet', *Royal College of Physicians* [Online]. Available at: <http://www.rcplondon.ac.uk/resources> (Accessed: 16 May 2011).

Royal College of Physicians (2010) 'Older people's experiences of falls prevention services', *Royal College of Physicians* [Online]. Available at: <http://www.rcplondon.ac.uk/resources> (Accessed: 9 April 2011).

Royal College of Physicians (2009) 'National audit of the organisation of services for falls and bone health of older people', *Royal College of Physicians* [Online]. Available at: <http://www.rcplondon.ac.uk/resources> (Accessed: 6 April 2011).

Royal College of Physicians (2006) 'Falling short: organisation of services for people who have a fall' [Online]. Available at: [http://www.rcplondon.ac.uk/news/news.asp?PR\\_id=304](http://www.rcplondon.ac.uk/news/news.asp?PR_id=304) (Accessed: 17 September 2009).

Ruane, J.M. (2005) *Essentials of research methods*. Oxford: Blackwell Publishing.

Rubenstein, L.Z. (2006) 'Falls in older people: epidemiology, risk factors and strategies for prevention', *Age and Ageing*, 35(S2), pp.37-41.

- Rubenstein, L.Z. and Josephson, K.R. (2002) 'The epidemiology of falls and syncope', *Clinics in Geriatric Medicine*, 18(2), pp. 141-58.
- Sargeant, J., Loney, E. and Murphy, G. (2008) 'Effective interprofessional teams: "contact is not enough" to build a team', *Journal of Continuing Education in the Health Professions*, 28(4), pp. 228-234.
- Sari, A.B.A., Sheldon, T.A., Cracknell, A. and Turnbull, A. (2006) 'Sensitivity of routine system for reporting patient safety incidents in an NHS hospital: retrospective patient case note review', *British Medical Journal*, 334(7584), pp. 1-4.
- Schwendimann, R., De Geest, S. and Milisen, K. (2006) 'Evaluation of the Morse Fall Scale in hospitalised patients', *Age and Ageing*, 35(3), pp. 311-313.
- Shadish, W.R., Cook, T.D. and Campbell, D.T. (2002) *Experimental and quasi-experimental designs for generalized causal inference*. New York: Houghton Mifflin Company.
- Shaw, F.E., Bond, J., Richardson, D.A., Dawson, P., Steen, I.N., McKeith, I.G. and Kenny, R.A. (2003) 'Multifactorial intervention after a fall in older people with cognitive impairment and dementia presenting to the accident and emergency department', *British Medical Journal*, 326(7380), pp. 73-9.
- Sheehan, D., Robertson, L. and Ormond, T. (2007) 'Comparison of language used and patterns of communication in interprofessional and multidisciplinary teams', *Journal of Interprofessional Care*, 21(1), pp. 17-30.
- Sherrington, C., Whitney, J.C., Lord, S.R., Herbert, R.D., Cumming, R.G. and Close, J.C.T. (2008) 'Effective exercise for the prevention of falls: a systematic review and meta-analysis', *Journal of the American Geriatrics Society*, 56(12), pp. 2234-43.
- Shumway-Cook, A. and Woollacott, M.H. (2007) *Motor control: theory and practical applications*. (4<sup>th</sup> ed.), Baltimore: Lippincott Williams & Wilkins.

Skelton, D.A. (2006) 'How can the Primary Care team help older people stay active and maintain independence?', *Update (GPs)*, pp. 78-81. *Later Life Training* [Online]. Available at: <http://www.laterlifetraining.co.uk/about/publications> (Accessed: 23 June 2008).

Sommer, R. (2009) 'Dissemination in action research', *Action Research*, 7(2), pp. 227-236.

Sorrells-Jones, J. (1997) 'The challenge of making it real: interdisciplinary practice in a 'seamless' organisation', *Nursing Administration Quarterly*, 21(2), pp. 20-30.

Sorlie, V., Torjuul, K., Ross, A. and Kihlgren, M. (2006) 'Satisfied patients are also vulnerable patients - narratives from an acute care ward', *Journal of Clinical Nursing*, 15(10), pp. 1240-1246.

Sorrell, J.M. (2010) 'The need for empathy in the hospital experience of older adults', *Journal of Psychosocial Nursing*, 48(11), pp. 25-28.

Spalding, N.J. (2009) 'Improving practice through involvement in action research', *International Journal of Therapy and Rehabilitation*, 16(3), pp. 130-138.

Steadman, J., Donaldson, N. and Kalra, L. (2003) 'A randomised controlled trial of an enhanced balance training program to improve mobility and reduce falls in elderly patients', *Journal of the American Geriatrics Society*, 51(6), pp. 847-852.

Stenvall, M., Olofsson, B., Lundström, M., Englund, U., Borssén, B., Svensson, O., Nyberg, L. and Gustafson, Y. (2007) 'A multidisciplinary, multifactorial intervention program reduces postoperative falls and injuries after femoral neck fracture', *Osteoporosis International*, 18(2), pp. 167-175.

Stevens, J.A., Thomas, K., Teh, L. and Greenspan, A.I. (2009) 'Unintentional fall injuries associated with walkers and canes in older adults treated in U.S. emergency departments', *Journal of the American Geriatrics Society*, 57(8), pp. 1464-1469.

Stewart, M. (2001) 'Towards a global definition of patient centred care', *British Medical Journal*, 322(7284), pp. 444-445.



Swanenburg, J., Douwe De Bruin, E., Stauffacher, M., Mulder, T. and Uebelhart, D. (2007) 'Effects of exercise and nutrition on postural balance and risk of falling in elderly people with decreased bone mineral density: randomized controlled trial pilot study', *Clinical Rehabilitation*, 21(6), pp. 523-534.

Tarpey, M.R. (2006) 'Why people get involved in health and social care research: a working paper', *INVOLVE*, pp. 1-26. *INVOLVE* [Online]. Available at: [http://www.invo.org.uk/pdfs/whypeoplegetinvolvedinresearch\\_August2006.pdf](http://www.invo.org.uk/pdfs/whypeoplegetinvolvedinresearch_August2006.pdf) (Accessed: 5 August 2008).

Tesch, R. (1990) *Qualitative research: Analysis Types and Software Tools*. New York: Falmer Press.

Thorne, S. (2000) 'Data analysis in qualitative research', *Evidence Based Nursing*, 3(3), pp. 68-70.

Thylefors, I., Persson, O. and Hellstrom, D. (2005) 'Team types, perceived efficiency and team climate in Swedish cross professional teamwork', *Journal of Interprofessional Care*, 19(2), pp. 102-114.

Tinetti, M.E. (2008) 'Multifactorial fall-prevention strategies: time to retreat or advance', *Journal of the American Geriatrics Society*, 56(8), pp. 1563-1565.

Tinetti, M.E. and Williams, C.S. (1998) 'The effect of falls and fall injuries on functioning in community-dwelling older persons', *The Journals of Gerontology*, 53(2), pp. 112-119.

Titler, M.G., Shever, L.L., Kanak, M.F., Picone, D.M. and Qin, R. (2011) 'Factors associated with falls during hospitalization in an older adult population', *Research and Theory for Nursing Practice: An International Journal*, 25(2), pp. 127-152.

Tolson, D., Schofield, I., Booth, J., Kelly, T.B. and James, L. (2006) 'Constructing a new approach to developing evidence-based practice with nurses and older people', *Worldviews on Evidence-Based Nursing* 2006, 3(2), pp. 62-72.

- Trondsen, M. and Sandaunet, A.G. (2009) 'The dual role of the action researcher', *Evaluation and Program Planning*, 32(1), pp. 13-20.
- Tutton, E.M.M. (2005) 'Patient participation on a ward for frail older people', *Journal of Advanced Nursing*, 50(2), pp. 143-152.
- Tutton, E. and Ager, L. (2003) 'Frail older people: participation in care', *Nursing Older People*, 15(8), pp. 18-22.
- Tzeng, H.M. and Yin, C.Y. (2008) 'Nurses' solutions to prevent inpatient falls in hospital patient rooms', *Nursing Economics*, 26(3), pp. 179-187.
- Vassallo, M., Vignaraja, R., Sharma, J.C., Briggs, R. and Allen, S. (2005) 'The relationship of falls to injury among hospital in-patients', *International Journal of Clinical Practice*, 59(1), pp. 17-20.
- Vassallo, M., Vignaraja, R., Sharma, J.C., Hallam, H., Binns, K., Briggs, R., Ross, I. and Allen, S. (2004) 'The effect of changing practice on fall prevention in a rehabilitative hospital: the hospital injury prevention study', *Journal of the American Geriatrics Society*, 52(3), pp. 335-339.
- Vellas, B.J., Wayne, S.J., Romero, L.J., Baumgartner, R.N. and Garry, P.J. (1997) 'Fear of falling and restriction of mobility in elderly fallers', *Age and Ageing*, 26(3), pp. 189-93.
- Vogt, L., Lucki, K., Bach, M. and Banzer, W. (2010) 'Rollator use and functional outcome of geriatric rehabilitation', *Journal of Rehabilitation Research & Development*, 47(2), pp. 151-156.
- Wainwright, S.P. (1997) 'A new paradigm for nursing: the potential of realism', *Journal of Advanced Nursing*, 26(6), pp. 1262-1271.
- Waterman, H., Tillen, D., Dickson, R. and De Koning, K. (2001) 'Action research: a systematic review and guidance for assessment', *Health Technology Assessment*, 5(23), pp. 1-174.

- Wells, A., Swain, D. and Fieldhouse, L. (2010) 'How support staff can be helped to challenge unacceptable practice', *Nursing Management*, 16(9), pp. 24-27.
- Wendel, V.I., Durso, S.C., Cayea, D., Arbaje, A.I. and Tanner, E. (2010) 'Implementing staff nurse geriatric education in the acute hospital setting', *MEDSURG Nursing*, 19(5), pp. 274-280.
- Weiland, D., Kramer, B. J., Waite, M. S. and Rubenstein, L. Z. (1996) 'The interdisciplinary team in geriatric care', *American Behavioural Scientist*, 39(6), pp. 655-664.
- White, G.W., Suchowierska, M. and Campbell, M. (2004) 'Developing and systematically implementing participatory action research', *Archives of Physical Medicine and Rehabilitation*, 85(4), pp. S3-12.
- Whitehead, C.H., Wundke, R. and Crotty, M. (2006) 'Attitudes to falls and injury prevention: what are the barriers to implementing falls prevention strategies?', *Clinical Rehabilitation*, 20(6), pp. 536-542.
- Wiechula, R., Kitson, A., Marcoionni, D., Page, T., Zeitz, K. and Silverston, H. (2009) 'Improving the fundamentals of care for older people in the acute hospital setting: facilitating practice improvement using a Knowledge Translation Toolkit', *International Journal of Evidence-Based Healthcare*, 7(4), pp. 283-295.
- Williams, S.J. (1999) 'Is anybody there? Critical realism, chronic illness and the disability debate', *Sociology of Health and Illness*, 21(6), pp. 797-819.
- Williams, T.A., King, G., Hill, A.M., Rajagopal, M., Barnes, T., Basu, A., Pascoe, G., Birkett, K. and Kidd, H. (2007) 'Evaluation of a falls prevention programme in an acute tertiary care hospital', *Journal of Clinical Nursing*, 16(2), pp. 316-324.
- Williamson, G.R. (2001) 'Does nursing need an ethical code for research?', *Nursing Times Research*, 6(4), pp. 785-788.
- Williamson, G.R. and Prosser, S. (2002) 'Action research: politics, ethics and participation', *Journal of Advanced Nursing*, 40(5), pp. 587-593.

- Wilmot, S. (1995) 'Professional values and interprofessional dialogue', *Journal of Interprofessional Care*, 9(3), pp. 257-266.
- Wilson, V. (2005) 'Developing a vision for teamwork', *Practice Development in Health Care*, 4(1), pp. 40-48.
- World Health Organisation (2009) 'WHO global report on falls prevention in older age', *World Health Organisation* [Online]. Available at: [http://www.who.int/ageing/publications/Falls\\_prevention7March.pdf](http://www.who.int/ageing/publications/Falls_prevention7March.pdf) (Accessed: 19 September 2009).
- World Health Organisation (2003) 'ICF Checklist', *World Health Organisation* [Online]. Available at: <http://www.who.int/classifications/icf/training/icfchecklist.pdf> (Accessed: 19 February 2009).
- Wright, S., Goldman, B. and Beresin, N. (2007) 'Three essentials for successful falls management: communication, policies and procedures, and teamwork', *Journal of Gerontological Nursing*, 33(8), pp. 42-48.
- Xyrichis, A. and Lowton, K. (2008) 'What fosters or prevents interprofessional teamworking in primary and community care?', *International Journal of Nursing Studies*, 45(1), pp. 140-153.
- Xyrichis, A. and Ream, E. (2008) 'Teamwork: a concept analysis', *Journal of Advanced Nursing*, 61(2), pp. 232-241.
- Yardley, L., Beyer, N., Hauer, K., Kempen, G., Piot-Ziegler, C. and Todd, C. (2005) 'Development and initial validation of the Falls Efficacy Scale-International (FES-I)', *Age and Ageing*, 34(6), pp. 614-619.
- Zecevic, A.A., Salmoni, A.W., Speechley, M. and Vandervoort, A.A. (2006) 'Defining a fall and reasons for falling: comparisons among the views of seniors, health care providers, and the research literature', *The Gerontologist*, 46(3), pp. 367-376.
- Zuber-Skerritt, O. and Perry, C. (2002) 'Action research within organisations and university thesis writing', *The Learning Organisation*, 9(4), pp. 171-179.